Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

SHOUT
SHARE
IT

LIBRARY
OF THE
UNITED STATES
DEPARTMENT OF AGRICULTURE

Class 6
Book C8321 v.8.
8—1577

JV. '60

15
95123
183

Charles F Morton

THE

Mill Farm Mortonville

CULTIVATOR,

Orange Co S N York

A MONTHLY JOURNAL DEVOTED TO

1851

AGRICULTURE, HORTICULTURE, FLORICULTURE,

AND TO

DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH ENGRVINGS OF

FARM HOUSES AND FARM BUILDINGS, IMPROVED BREEDS OF
CATTLE, HORSES, SHEEP, SWINE AND POULTRY,
FARM IMPLEMENTS, DOMESTIC
UTENSILS, &c.

NEW SERIES---VOL. VIII.

ALBANY, NEW-YORK:
PUBLISHED BY LUTHER TUCKER, 407 BROADWAY.

OFFICE IN NEW-YORK CITY, AT
M. H. NEWMAN & Co.'s BOOKSTORE, No. 199 BROADWAY,
WHERE SINGLE NUMBERS, OR COMPLETE SETS OF THE BACK VOLUMES CAN ALWAYS BE OBTAINED.

FROM THE STEAM PRESS OF C. VAN BENTHUYSEN.
1851.

61036

JUN 13 1898

INDEX TO VOLUME VIII.

(NEW SERIES.)

[EXPLANATION.—In making out the annexed Index, we have placed every thing relating to CATTLE, under that head—so with HORSES, SHEEP, SWINE, POULTRY, DOMESTIC ECONOMY, BOOKS, PERIODICALS, MANURES, &c. Every article referring in any way to these subjects, will be found arranged under these separate heads.]

A.

Accounts, Keeping and settling,......... 4
Acres, English and Scotch,.............. 47
Addison co. exhibition,................. 374
Address of Hon. F. Holbrook,.......... 405
Agricultural implements, improvement in, 33, 72
— Education, importance of,........ 38
— Bureau, National,................. 51
— Papers, importance of,......... 83, 30
— — Suggestion for improving,.... 304
— School, Gov. Hunt on, ... 86
— — report of Mass. Commissioners on,.................... 161
— library, list,........................ 120
— reading, benefits of, 146, 165, 206, 279
— Convention at Boston,......... .. 184
— Schools, remarks on,.........353, 385
— Exhibition of Addison co., Vt.,.... 374
— — Bucks co., Pa.,.............. 374
— — Philadelphia co.,............. 374
— — Washington co., N. Y.,...... 375
— — Berkshire, Mass.,............. 375
Agriculture, blundering legislation in,... 116
— of Ohio,..................... 257, 289
— — animals,...................... 324
— of Illinois and Iowa,.......... 355, 386
Alders, killing,......................... 89
Almanac for 1851,....................... 1
Analysis of soils, price of,.............. 60
— of White Sugar beet,............ 354
— of soils, comparative,......... 332, 362
American Institute Fair, ... 405
Animal heat,........................... 73
Animals, domestic, how best fed,........ 80
— — skill in breeding,............. 81
— — improvement in,............. 102
— — fed on red-root seed,.......... 148
— — cross-breeding, ... 377
— Cooking food for,................. 13
— — large and small,.............. 148
— Feeding in winter,................ 13
APPLES—Early Joe,...... 77
Rough and Ready, so called,....... 79
List of trees bearing young,......... 109
In Kentucky,........................ 110
For stock,.......................... 120
For stewing,........................ 138
Late Strawberry,................ . 138
Northern Spy,....................... 210
Williams' Favorite,...... 238
Long keeping,.......... 267, 270, 303
Falling from trees,.................. 313
Fattening swine on,................. 314
Discussion on at Rochester,......... 365
Ashes, experiment with,................. 21
— mixing with manure,............. 395
Asparagus, culture of,.................. 18
Astronomical Observatory in Albany,... 346

B.

Babirussa, figure and description of,..... 144
Barley trade of Albany,................. 92
Barley, loss by malting,................. 103
Bees, to prevent robbing,............... 373
Bignonia, large flowered,................ 269
BIOGRAPHY—Memoir of Col. Pickering,.............. 100, 131, 249
— — Judge Hayes,................. 260
Blackberry, cultivation of,.............. 367
BOOKS—Western Horticultural Review, 110
Architecture of Country Houses,... 167
Glances at Europe,................ 395
Rural Homes,...................... 395
The Horticulturist,................ 395
Prof. Johnston's Notes,............ 213
Youatt and Martin on Cattle,....... 225
Stephens' Farmers' Guide,......... 233
Blake's Lessons in Farming,....... 239
Dixon on Poultry,........ 239, 291, 377
American Pomologist,........... . 301
Butter making,........................ 12
— in Pennsylvania,................. 401
Bridge, Severson's Iron,................ 208
Buds for inoculating, how long will they keep? 77
Buckwheat, value of,................... 250
BUILDINGS—Plan of a barn,.......... 178
Plan of a Dairy House,............ 240
Carriage house and stable,.......... 241
Country school house,............... 18
Bracketed farm house,.............. 28
Country house in the pointed style,.. 29
Sheep barn,........................ 22
Bull, strength of,....................... 376
Butter, mode of making,................ 85
— large yield,........ 91
— making and milk houses,..... 115, 401
— — the art of, and requisite for, .. 171
— from 16 cows,............. 172
— large yields,................. 172, 207
— flavor of, remark on,.... 184
— Scalding milk and cream for,..... 209

C.

Cabbage Grub, to destroy,............. 18
Canada Thistle, how to manage it,. 360
— to destroy,......................... 23
Carrots, culture of,.., ... 119
— and parsnips, comparative value of, 339
CATTLE—Devon breed,. 50
Premium Cows,................ 85, 122
Show at Smithfield club,........... 87
Depot in Albany,.................... 152
Poisoned by lead,................... 152
Fat, notice of,........... 153, 184, 218
Cure of wens in,.... 172
In Novia Scotia, improved,......... 181
Profitable cow,..................... 207
Devon, smart workers,............. 218
Southern, prices of................. 219
History of Short-horns,............. 225
Fattening in Dutchess county,...... 235
Ayrshire,.......................... 246
Fat in Kentucky,................... 249
Short-horn bull, Seaham,........... 272
L G. Morris' and G. Vail's sales,.... 275
Cattle—Notice of Sherwood's,......... 273
Hereford,..................... 305, 376
Short-horn, notice of,............... 315
In Ohio,........................... 325
Premium cows in Mass.,........... 361
Sale of at State Fair,.............. 376
Of W. W. Wadsworth, notice,..... 379
Notice of good cows,............... 379
A prolific free-martin,.............. 380
Alderney,.......................... 25
Cows, superior,..................... 25
cabbage and turneps for,........... 394
Relieving choked.................... 25
To promote health of,.............. 25
Cayuga Lake, depth of and remarks on,. 147
Characteristics of the Season, 1851, 185, 390
Cheese Press, Kendall's,................ 27
Chemistry, connection with agriculture,. 56
— as applied to farming, advantages shown,................... 69, 134
Cherries, best sorts,............... 267, 302
— rotting of,........................ 302
Chess, rapid increase by seed,........... 151
Chestnut, Spanish, curious experiment, 47, 112
— Cultivation of,.................... 231
Cider mill, Chapin's portable,........... 279
City and country, change respecting,.... 205
Close of our volume,.................... 385
Clover, Chilian, ... 89
Cooking meats, time required for,....... 24
Correction—Prof. Mapes, ... 405
Corn, best kinds of,....... 57
— Stalk cutter,....................... 88
— Brown,........................ 88, 122
— Sheller for horse power, ... 119
— Sheller, Clinton,................. 14
— Large crop of,................... 185
— Sweet, preparing for use in winter, 185
[See *Indan Corn.*]
County Agricultural Institutes,.......... 263
Cranberry, Cultivation of,.......... 153, 311
— On upland not successful, ... 220
Credit among publishers,............... 150
Crops in Nova Scotia,................. 44
— New-Jersey,...................... 91
— of New-England, remarks on,.... 118
Croup, remedy for, ... 27
Cucumbers, culture of,................. 18
— to raise early, ... 18
Cultivation by steam,.................. 306
Cultivator, improvement in,............ 72

D.

Dairy Business in Ohio,................ 325
— Steamer,....... 11
Dairying, profits of,............... 114, 207
December, seasonable hints for, ... 15
Delafield, John, portrait of,............. 368
Delaware county, farming in, ... 387
Deodar, great durability of its timber,... 143
Dog power, ... 8
DOMESTIC ECONOMY—Buckwheat and corn cakes, ... 24

Domestic Economy—Tomatoes, to cook, 24
Kisses, to make, 24
Raspberry Syrup and Jam, 24
Blackberry Syrup, 24
Sausages, receipt for, 24
Eggs, to preserve, 24
Simple remedies, 27
Curing prize hams, 58
Pine Apple Cheese, 76
Recipes for using corn meal, 76
Washing fluid, 76
Cooking for the sick, 23
— meats, time for, 24
Making candles, 76
Making tea, 76
Poisons by copper vessels, 76
Treatment of Scarlet fever, 137
to make whitewash, 138
preparations of barley, 138
to make lard candles, 207
to keep preserves, 207
New water cement, 207
to cure leaky roofs, 208
Drag roller, utility of, 305
Draining, tile machine for, 59
— with tile, how done, 169, 283, 341
— sanatary effects of, 184
— and irrigation, remarks on, 200
— deep and shallow, 219
— with brush, 219
— by wood, 329
— advantages of, 341, 366, 21
Drill machine, improvement in, 72, 184
— Bickford & Hoffman's, 209
— advantages of, 7
Dwarf fruit trees, remarks on, 77
Ducks, Variety of, 405

E.

Eclipses in 1851, 2
Egg-hatching machines, failure, 119
Elms, successfully transplanted, 113
Emigration from Great Britain, 250
Evergreens, raising them from seed, 329
Exotic Vegetables, 403

F.

Fan mill, Grant's, 14
Farmer's boys, science for, 215
Farming, high, fine examples, 31, 35, 36
— English, average products of, 60
— importance of improved system in, 75, 248
— philosophy of, 116, 134
— in Otsego county, 129
— suggested improvements in, 193
— profits of, 205
— good and bad, 206
— on a grand scale, 219
— in England, 247
— in Pennsylvania, 399
— bad management in, 276
— unimproved, the science of, 309
— of the Earl of Leicester, 328
FARMS—Notices of:
George Pierce's, West Cambridge, 35
Leonard Stone, Watertown, 36
D. D. T. More, Watervliet, 397
A. Cornell, jr., Pennsylvania, 400
Jas. C. Cornell, do 401
Farms, worn out, improvement of, 65
— in Amherst county, Va., 121
Fences, cost and economy of, 67
— wire, how made, 82, 122, 21
— improved ornamental, 144
— worm, damage by, 216
— remarks on, 244
— on wet lands, 245
Fire annihilator noticed, 378
Fish, singular death of, 405
Flax cotton, 89, 341
— seed, quantity per acre, 185
— improvement in the manufacture of 199
Flowers, utility of the cultivation of, 173
Foot-rot and Foul-foot, distinct, 248
Forks, hay and manure, improvement in, 34
Franklin Coal Burner, 403
Frosts in valleys, 47
Fruit, models of, 121
— prospects of, for 1851, 142
— profits of in Illinois, 212
— drying, 236
— — apparatus for, 268
— economy of, 16
— for market, 16
— circle of, 17
FRUIT CULTURE—Trimming down lists, 77
Fruits changed by climate, 78
Brief hints for winter, 78
Bearing trees in nurseries, 79
Canker or decay, 79
in New-Jersey, 92
list of trees to supply a family, 110
protecting trees, 119
advantages of suckers, 141, 143
Northern trees, remarks on, 142
lime for curculio a failure, 173
successful treatment of trees, 212
timely hints, 238
laying in Trees for Winter, 394
familiar hints on good culture, 333
secret of a great improvement in, 365
planting too deep, 367
disease in trees, 367
Fuel, to save, 4

G.

Garden economy at midsummer, 237
GARDENING—Drying sage, 88
planting on sod in hot beds, 111
management of kitchen garden, 140
on a large scale, 212
good vegetables and small fruits, 366
Gardens and orchards for market near Boston, 35
— value of toads in, 250
Good rules and good management, 21
Gooseberries, long lists of, 77
— mildew prevented, 315
Grafting-wedges, simple, 77
— and grafting tool, 142
Grafts may be cut frozen, 46
— recovering dried, 77
— on stock, influence of, 77
Grain, cutting and securing, 232
Grain binder's wheel rake, 9
Grape-house combined with poultry-house, 54
— cold, description of, 113, 301
— Diana, 110
Grapevines, trellis for, 174
— protecting from rose bugs, 174
— summer pruning, 211
— bleeding of, 268
— culture of, 17
Grass for mucky land, 88
— tall oat, 89
— best sorts for low lands, 181
— directions for seeding with, 313
Greene county, agriculture and horticulture in, 339

H.

Hay, benefit of cutting, 5
— large yield of, 54, 219
— press noticed, 379
— value of clover for, 57
— pitching by horse power, 84
— culture and curing. 201
— best time for cutting, 277
Hedge, buckthorn, 138, 302
— Siberian Crab, 212
— Osage Orange, 238, 302
Hemp, culture and preparation of, 97
Heating Dwellings, 403
History of Phelps and Gorham's Purchase, 395
Hog, wild, 93
Horse rake, 9
— powers, 27
HORSES—English draft, figure and description, 80
Gifford Morgan, 85
A smart old fellow, 91
Morgan, notice of, 153, 218, 26
cure for scratches in, 173
breeding, 266
in Ohio, 326
Black Hawk and his progeny, 380
Colic in, 19
of the Ancients, 26
heaves in, remedy for, 26
Horticulture, mania for new things, 78

I.

Ice, importance of intense freezing, 83
Illinois and Iowa, agriculture of, 355, 386
Implements, English vs. American, 249
— at New-York State Fair, 369
Improvements in farming, causes of, 165
INDIAN CORN—best kinds of, 57
relative weight of grain and cob, 60
intermixture of varieties, 394
for the World's Fair, 91
varieties of, 114
for fodder, 180, 29
inquiries respecting, 182
culture of in Ohio, 289
Harvesting, 296
large crops of, 335
experiment with topping, 338
[See *Corn.*]
Indian portrait gallery, 60
INSECTS—Salt for curculio, 79
on the Verbena, 111
destroying wire-worms, 114
to destroy woolly aphis, 121
lime for curculio a failure, 173
rose bugs on grapes, 174
remedies for curculio, 175
Chinch-bug, 402
Curculio repelled by fumigation, 265
Curculio—causes of failure, 269
remarks on the locust, 277
joint-worm in wheat, 282, 402
destructive caterpillar, 282
remedy for plant-lice, 303
fowls for curculio, 303
wheat insect, joint-worms, 321
wheat midge, 323, 402
bugs on vines, 329
how to kill black ants, 366
Irrigation, 55, 68
— in Switzerland, 229

K.

Knowledge, pursuit of, under the difficulties of scientific quackery, 103
Kew, national gardens at, 24

L.

Landscape gardening, two kinds contrasted, 112
Lard oil, amount made, 346
Lawrence Scientific School, 91
Lenawee Ag. Society, liberality of, 303
Letters from England, 279
Lettuce, to raise early, 18
Lightning rods, height for, 60
Locust, seventeen year, 45
— for timber, how raised, 139

M.

Manetti stocks for roses, 302, 367
MANURES—Bones, reduced by steaming, 270
materials for, 282
evaporation of, 354
bones for, 52, 62
— — softened by fermentation... 83
shelter for, 149, 245, 313
from poultry, value of, 151
barn for, 214
sulphate of ammonia for, 217
Fish guano, 218
mixing plaster with, 229, 364
Tan-bark for, 248
economy of, 52
phosphate of lime at Crown Point, 59
Chappell's fertilizer, useless, 59
management of, 66, 68
economy of top-dressing, 68
lime in composts, 81
importance of phosphates in pastures, 99
New-Jersey marl, 119
nature and composition of coal ashes, 136
loss of, 138
management of animal offal, 138
suggestions of experiments with gypsum, 195
Peat and peat charcoal, 203
leached ashes and muck, 214
phosphate of lime, notice, 249, 345
mineral, theory of, 392
Maryland Cattle Show, 388
Meat chopper, improved, 380
Mechanics' Institute, New-York, 218
Melons, culture of, 18
Method and order, 220
Mice, to protect laid-in trees from, 110
— to destroy, 215
Milk establishment of Geo. E. Adams, 294
Moore's New-Yorker, 381
Mowing machine, Ketchum's 248, 315

Mulching, importance of, 78
Mules vs. Horses, 122
Musk rats, how to catch, 182
Mustard, manufacture of, 250

N.

National park at Washington, 217
Nectarines, large, 79
NEW-YORK STATE AG. SCCIETY:
Annual Meeting, 58, 90
Delegation to World's Fair, 120
Plan of Winter Meeting, 183
list of Superintendents, 251
Account of its Fair at Rochester, 337
Implements at the Fair, 369
premiums awarded by, 371
number of animals exhibited, 380
Winter Exhibition, 404
Notes of a Tour in Central and Western York, Norton's, 43, 74
Notes of a Tour in Europe, 273, 330
Notes for the season, 85, 390

O.

OBITUARY—J. S Skinner and I. Hill, 183
Ohio State Fair, 376
Onion grub, how prevented, 60
Orchards successfully managed, 237
Osage Orange, hardiness of, 238

P.

Paris, excursion to, 343
Patent office Report, 281
Pea, best sorts, 112
— culture of field, 214
Peach trees, shortening in, 77
— crop saved by root pruning, 110
— buds, to save, 121
— trees, early summer budding, 217
— curl in, 269
Peaches, drying, 236
Pear blight, 239, 268
PEARS—The Seckel on apple, 46
Training dwarfs, 47
The Chaumontel, 110
Pyramidal trees, 209
New sorts proved, 210
Succession of, 237
The fame of a name, 238
Hardy, 303
Experiments with stocks, 334
Dwarf culture of, 17
Planets, rising and setting of, &c., 2
Planting trees to protect from winds, 45
Planting table, 30
Plants, protecting half hardy, 173
Plow, improvements in, 33
— centre draft, 49
— side hill, 88
— Chase's, 145
— horticultural, 146
Plows and plowing, principles and practice, 105
— American, at the World's Fair, 307
— — remarks, 373
— trial of at Norristown, Pa., 379
Plum trees, salt applied to, 47
— McLaughlin, 79
— Reine Claude Bavay, 211
— knots, remedy for, 268
Plums at Albany, new, 346
POETRY—Invitation to the country, 216
Pork made with corn, costly experiment, 241
— making in Ohio, 325
— — remarks on, 20
Postage law, outlines of, 281
POTATOES—Small for planting, good as any, 49, 394
Very bad, 46
Dissolved bones fine for, 54
Rot in, remarks on, 86, 92, 202, 335, 379
Fumigating, 121
Mulching, 139
Cultivation of, 181
Carter, 185
Comparative rotting in sorts, 220
Special manures for, 373
Stone Hill, noticed, 379
Potatoes—Experiment with, 380
To raise early, 18
Culture of, 20
POULTRY—Profits of fowls, 44
Building for, 54
Standard shape for fowls, 59
Native breeds of Fowls, 88
Egyptian Goose, 88
Successful management, 151
New England Poultry Society, 218
Best mode of making yard, 313
Gapes in chickens, 329
Management of, 9
Bucks County, 402
Product of Twelve Acres, 393
Putnam co., N. Y , sketch of, 163
— farms, sketch of, 357

Q.

Quack grass, destruction of, 207
Quinces grafted on thorns, 212
— how to raise, 17

R.

Rabbits, fine, 152
— their management and breeding, 176
Railroads, benefits of, 151
— effects on Agricultural products, 183
Raspberries, culture of, 17
Reaping machines, description of Hussey's and McCormick's, 40, 41
— — improvements in, 73
— — remarks on, 83
— — Hussey's, 149, 186
— — American, in England, 327
Remedies for cuts, burns, &c., 27
Republican presents to royalty, 208
— extravagance, 215
Rhubarb, best sorts, 46
Rich, how to grow, 28
Roofs, painting, 366
Root culture, experiments in, 147
Root crops and weeds, 20
Root-grafting apple trees, 46
Rose, Augusta, noticed, 346
Roses, protecting tender, 268, 394
— grafting, 334
Royal Agricultural Society, premiums of, 143
— — show of, 185, 297
Rye, multicole, value of, 60
Rye-grass, value of, 57

S.

Salt as food for plants, 306
— for animals, 378
Saw-mill, cross-cut by horse-power, 81
Scarlet Fever, treatment of, 137
Season of 1851, characteristics of, 390
Seed-sowing, cheap and expeditious, 118
— Sowers or Drills, 7
Seeds, steeps for, 185
— number of in given weights, 250
Sick, hints for nursing the, 19
SHEEP—Black faced, 48
Best time for yeaning, 57
Breeding, Bakewell's successful practice, 80
Dogs, French, 119
South Down, weight of, 153
Foot rot in, 173
Notice of imported, 184, 218
Silesian Merino ewe, 273
French and German Merino, 310
Rambouillet, 312
Husbandry in Ohio, 324
French vs. American Merinos, 342
New kind, 346
Poisoned by peach leaves, 354
Notice of French Merinos, 379, 380
Cheviot, 22
Age of, 22
Shelter for, 22
Shovel, improvements in, 34
Shrubs, protecting half-hardy, 112
Singular Phenomenon, 405
Soil, pulverization of, 235
Soils, comparative analysis of, 332, 362
Soils, advantage of paring and burning, 342
South Down mutton, delicious, 152
Solar System, table of, 3
Spoke machine, 88
Straw cutter, improvements in, 73
Strawberries, successfully transplanted, 237
— relative productiveness, 238
— notes on, 270
— new sorts at Cincinnati, 302
— new qualities of, 303
Stump machine, 88, 244
— — Stewart's, 304
Sugar boiling apparatus, 6
Swamp, reclaimed, management of, 313, 378
SWINE—Kidney-worm in, 88
Suffolk pigs, 185
Very large, 246
Different breeds of, 20

T.

Thresher and Winnower, Wheeler's, 338
Tea Plant in the United States, 403
The Cultivator—Close of the Volume, 385
To Agents and Correspondents, 404
Premiums to Agents, 404
Tide Table, 3
Timber, time for cutting, 245
Time, equation of, 3
— economy of, 5
Transmutation, absurdity of, 239
Transplanting shrubs, how best done, 46
— shortening back in, 77
— good and bad shown, 112
Trees for waste lands, 377
— for Shade, 23
Turneps, flat, culture of, 18

U

University of Albany, 344, 346
Upas tree at Washington, 99

V.

Verbenas, how to raise, 212
Vermont State Fair, 376
Virginia lands, 306

W.

Water lime, nature of, 119
Water rams, 366
Weed seeds, strong vitality of, 182
Weeds, how to kill, 212, 283
Weight of earths, metals, &c., 30
Wells, experiments in digging, 117
Wens, 116
WHEAT—First raised in Western New-York, 49
Changed to chess, a humbug, 53
Increased production in New-York, 91
In Vermont successful, 122
Crop of New-York, increase in, 166
Mediterranean, quality of, 215
— value of, 314, 346
Banner, a misnomer, 248
Culture in Ohio, 257
Average yield in New-York, 312
Advantage of drilling, 314
and Bromus, notice, 314
Midge, joint-worm, and wheat insect, 321, 402
Will not change to chess, 340
Best time for cutting, 340
Plowing for, 341
Culture in Iowa, 356, 385
Experiment with, 7
Harrowing in spring, 8
How to stock, 10
Wood, management in growth of, 363
WOOL—Great amount of gum in, 50
Depot at Kinderhook, 92
Great product of, 145, 219
Use of gum, 150
World's Fair, notice, 60
— number of packages from each co., 219
— account of, 243, 247
— conclusion of, 393

INDEX TO CORRESPONDENTS

NEW-HAMPSHIRE.

Bartlett, Levi, 114, 364
Eaton, W. L., 37, 117, 205

VERMONT.

Bridge, Ebnr., 150
Gregory, John, 305
Holbrook, F., 35, 105, 260, 294, 310
Jewett, S. W., 312, 380
J. S. P., 50
Robinson, R. T., 143
Subscriber, 342

MASSACHUSETTS.

Bacon, Wm., 83, 85
Ela, W. L., 52
Harris, T. W., 402
J. T. H., 232
Lincoln, John W., 56
Mansfield, George, 182
Merriam, H C., 116
Proctor, John W., 100, 131, 249
Whiting, Francis, 147

CONNECTICUT.

Andrews, B. H., 347
Blakeslee, J. N 50
Bartlett, S. W., 379
Cummings, J., 172
Durand, L., 206, 244, 377
Gold, T. S., 49
Gray, J. W, 231, 380
Halsey, Henry, 231
Holt, Asa M., 174
Johnson, Saml. W., 263
Norton, John P., 43, 74, 103, 136, 169, 203, 233, 270, 309, 332, 362, 392
T. R. H., (Hadlyme,) 374

NEW-JERSEY.

G B D 232
Obert, Geo. W., 92
Sheppard, Benj., 380

PENNSYLVANIA.

Alexander, James H., 82, 181
B. M. E., 245
J. M, 367
Moore, John J., 354
Observee, 377
P. P. P., 84
Wilkinson, John, 146
W P., 200

NEW-YORK.

Allen, A. B. & Co, 373
Amenia, 234
American Agriculturist. 150
A. M., 339
Buckley, S. B., 49
C. E. G., 86, 111, 118, 141, 142, 143, 182, 202, 207
Collins, H., 172
D D., 142
Dean, 145
Dillingham, Otis, 114
E. S. *of Hillside*, 336, 269, 334
Evans, Gurdon, 240
Fancher, F. B., 211
Fitch, Asa, 321
G., 201
Hanchett, G. A., 91
Hanchett, Julia E., 76
H. C. W., 65, 163, 357
Hildreth, I., 231
Johnston, J., 42, 148, 214, 340
Leonard, Solomon, 340
Miner, T. B, 373
Observer, 291
Pardee, R. G., 366, 377
Redfield, Luther, 53
R, 176, 389
Salisbury, J H., 69, 354
Sotham, W. H., 305, 393
Thomas, David, 47, 111. 117, 138, 147, 173, 393, 269, 305, 366, 367
Todd, S Edwards, 116
Vandenburgh, J., 146
V. W. S., 182, 231
Wattles, Sherman Jr., 172
W. C. A., 245
Youth, 276

MARYLAND.

Hussey, Obed, 149
Smith, G. B. 361, 388
S, 403

DELAWARE.

J. R. L., 232

DISTRICT OF COLUMBIA.

Lee, Daniel, 281

VIRGINIA.

Clark, S. jr., 306
Davis, Micajah, 282
Rives, Alex., 321
Staples, W. A., 121

GEORGIA.

Benson, Richard A., 282

KENTUCKY.

Young, L., 97

OHIO.

Case, Norton, 232
Edmundson, W. G, 257, 289, 324
Matthews, James, 303

INDIANA.

Craig, John J., 115

ILLINOIS.

Bullock, L. L, 42
McCormick, C. H. 40
Mygatt, E. G 303

MICHIGAN.

Cone, Linus, 278
Watkins, L. D., 206
W. H. C., 305

WISCONSIN.

Green, Townsend, 82
Townley, John, 195

IOWA.

Edmundson, W. G., 355, 386

NOVA SCOTIA.

Irons, James, 181
Owen, H. L., 44

FOREIGN.

Johnson, B. P., 242, 247, 279, 297, 307, 327, 343
Sanford, Wm. R., 273, 330

UNKNOWN

E. D. A., 245
Moore, Oliver, (Kensington,) 339

INDEX TO ILLUSTRATIONS.

BUILDINGS.

Barn, Plan of, 178, 179
Bracketed Farm House, 28
Carriage House and Stable, 241
Clinton Point Vinery, 113
Cold Grape-House, 301
Dairy-House, plan of, 240
Mechanics' Hall, State Fair, 369
Ornamental Farm House, 29
School House, 18
Sheep Barn, 22

FRUIT CULTURE, &c.

Dwarf Pear Tree, 17
Fruit Gathering, 16
Pyramidal Pear, 209
Orchard Trees, good and bad, 334
Raspberries, 17
Strawberries, 17
Spur Pruning, 17
Training dwarf pears, 47, 210
— grapes, summer pruning, 211
Trellis for grapes, 211

SHEEP.

Black-Faced Scotch, 48
Cheviot, 22
Silesian Merino Ewe, 273

CATTLE.

Alderney Cow, 25
Short-horn Bull, Earl of Seaham, 272

HORSES.

English Draft, 80
Lady Gifford, 26

IMPLEMENTS AND MACHINES.

Bickford & Hoffman's Drill, 209
Chapin's Portable Cider Mill, 279
Clinton Corn Sheller, 14
Cross-cut Saw Mill, 81
Emery's Horse Power, 31
Emery's Drill Barrow, 7
Grain Binder's Wheel Rake, 9
Grant's Fanning Mill, 14
Horticultural Plow, 146
Horse Rake, 9
Hussey's Reaper, 42
McCormick's Reaper, 41
Plows, Center-Draft, 49
— Deep-tiller, 105, 107
— Lapped furrow, 108
— W. U. Chase's Amsterdam, 145
Stewart's Patent Stump Puller, 304
Straw Cutter, 5
Wheeler's Thresher and Winnower, 338

SWINE.

Suffolk and Landpike, 20

POULTRY.

Group of, 19

MISCELLANEOUS.

Babirussa, 144
Fancy lop-eared Rabbits, 176
Franklin Coal Burner, 403
Improved ornamental fence, 144, 145
Plowing illustrated, 106, 107, 108
Portrait of John Delafield, 368
Protection from winter winds, 45
Severson's Iron Bridge, 208
Transmuted head of wheat, 53
Self Regulating Stove, 4
Sugar Boiling Apparatus, 6
Dog Power, 8
Shocking Grain, 10
Dairy Steamer, 11
Thermometer Churn, 12
Mott's Agricultural Furnace, 13
Rural Scene, 16
Wire Fences, 21
Magnolia, 23
National Garden at Kew, 24
Kendall's Cheese Press, 27
Farm Buildings of D. D. T. More, 396

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

New Series. ALBANY, JANUARY, 1851. Vol. VIII.

Progress of Agriculture.

Improvement in Agricultural Implements.

In view of the great attention which has of late years been devoted to agriculture, the question is sometimes asked—What have we gained? The inquiry is a proper one, and deserves serious consideration; for if all the expense of labor, time and money, which has been spent in attempting improvement has failed, in reference to that end, it is time to pause in our career, and either abandon the object of pursuit, or seek to obtain it by some more practicable means. If, on the other hand, our efforts have been in any degree successful, it is important to know wherein, and at what cost. We should take a careful retrospect of our journey, endeavor to measure our progress with accuracy, and place such landmarks at the different stages, as will serve as guides to those who may come after us.

We propose to notice in this and succeeding numbers, some of the improvements in agriculture which have been introduced in this country within the observation of many who are still engaged in that branch of industry. We here use the term improvement in an economical sense, our design being chiefly to show wherein ingenuity and skill, as applied to the cultivation of the earth, have been made conducive to a better return for labor.

Various important points have been gained in the different branches of husbandry, though it is in the implement department that improvement has been most conspicuous, and it is to this source that we are in a great measure indebted for our improved modes of tillage.

The Plow may be regarded as forming in part, the basis of agriculture, and for this reason it is proper to consider, in the first place, the improvements of this implement. We cannot here specify all the changes which the plow has undergone from the earliest ages. A comparison of the figures representing the plow used by the ancient Egyptains, or Romans, with those in use among the most civilised nations at the present day, shows a striking contrast; though there are instances, as with the Moors of Africa, and the Spanish settlements of America, in which but little advance has been made from the most primitive rudeness of the implement. It is, however, chiefly within the present century, that the most important improvements in the plow have been made. The substitution of cast-iron for the wooden mould-board was made in Scotland towards the close of the last century, and about that time considerable discussion began in Great Britain in regard to the proper construction of the plow. This discussion was subsequently extended to this country, and the improvement of the plow became a prominent object with our agricultural societies. Still it was several years before any material advance became perceptible, and it may be safely assumed that the most valuable improvements have been added to the implement within the last forty years, and the greater portion of them within much less time.

The results of the modern improvements in the plow, may be comprised under the following heads:

1. Greater ease of draft. This item alone has lessened the expense of plowing in many instances fully one half. Formerly, it was common in "breaking up" or plowing sward, to use four oxen or horses, with sometimes an extra horse as a leader; the manual force being a plowman, a driver, and, if the land was at all stony or hard, a hand to bear on the plow in particular places. Lands in the same condition are now plowed with two oxen or horses, with only one man, who is both plowman and driver, more land being plowed in a day, and at a greater average depth, than before. This ease of draft is owing partly to the wearing surfaces of the plow being hard and entirely smooth, and partly to the form being more nearly that which is calculated to accomplish the work with the least resistance.

2. Superior execution of the work. A great gain has been effected in this respect. The better condition in which the soil is left by the improved plow, saves much of the expense of after cultivation, and insures a much larger return in the crop. In the culture of Indian corn and other hoed crops, the amount of hand labor is reduced at least twenty per cent. There is less grass to be subdued by the hoe, while at the same time the vegetable and earthy matters of the soil are brought into the state from which the crop derives the most support.

3. Adaptation to special purposes. Something has been gained in this respect. It has been discovered, for instance, that soils which are too light, should be plowed in a different manner from those which are too heavy; that rough and uneven lands require a different plow from those which are smooth and level; and some attention has been given to the manufacture of implements best fitted to accomplish the various objects desired. This is an important point, and the encouraging results which have already been attained, should stimulate to further exertions in this direction.

4. Cheapness and durability. It is a gratifying and somewhat remarkable fact, that in addition to all the above advantages which the improvement of the plow has secured, the implement is afforded at about half the cost, and is also much more durable.

THE SHOVEL.—This implement has undergone almost an entire change within the recollection of living witnesses. The shovels first used by some of our oldest farmers were entirely of wood. They were made by working down a thick plank, commonly of maple, till it assumed as near as possible, the requisite form. Sometimes a thin and narrow strip of iron was nailed close to the edge, to keep it from being split. To use these shovels the earth had first to be thoroughly loosened by the crow-bar and pick, and even then, it was not uncommon for one man to use a hoe for the purpose of loading a shovel used by another.

This wooden shovel after a while, gave place to an iron-shod one. This differed from the first mentioned only in having a plate of iron, about three inches wide fastened to the edge. In some of the best of this kind, the iron was grooved, and the blade of the shovel inserted into the groove. This was deemed a great improvement, and when shoveling was to be done, the laborer deemed himself fortunate if he could be allowed an iron-shod shovel.

The next improvement consisted in substituting sheet iron for the plate or body of the shovel. The iron was turned at the sides and top, so as to form a rim. A round socket was made near the top, into which a straight stick was driven for a handle. In other respects the plate was entirely flat, and in shape bore little resemblance to the shovel now in use. It was, however, thought to be a great advance on the former kinds. Still it was but a clumsy and inefficient tool, compared with the highly finished shovel now made. The blade was soft, and it had so little substance, that in attempting to force it into the earth, it soon became so bent and twisted as to be useless.

It may be safely said that a man can, with the same expenditure of strength, perform twice as much work in the same time, with one of our best modern shovels, as he could with either of the kinds before described. This important improvement has been effected mostly within the last forty years, and it is not too much to say that the credit of it belongs principally to a distinguished manufacturer of Massachusetts, whose shovels and spades, for utility and value, are unrivalled in the markets of the world. This is, in fact, so generally acknowledged, that the stamp of "O. AMES" is everywhere regarded as a sufficient guarranty of the quality of the article.

HAY AND MANURE FORKS.—A great improvement has taken place in these tools. Until within a few years, they were made very heavy and unwieldy. The tines were iron, untempered, and to give them the requisite strength, it was necessary that they should be large. This not only exhausted the strength of the laborer in carrying useless weight, but prevented the easy working of the implement. Notwithstanding their size and weight, they soon got sprung out of shape. Manure forks were made of rods three-fourths of an inch thick, and they would only answer for the coarsest and most fibrous manures.

The neat steel-tempered forks now made by PARTRIDGE and others, though of not more than half the weight of those in former use, are much stronger, and a man will accomplish much more in a day with them and with less fatigue, than with the old kind. The manure forks are made with such nicety that they are used instead of the shovel to a great extent, as work can be done with the fork with greater ease and despatch.

THE AX has been the most important implement in effecting the first great change in the appearance of the country.

> "With the pioneer ax what a conquest is made;
> What a field from the forest is won!
> What regions, reduced from the wilderness shade,
> Are now warmed in the beams of the sun!"

This implement has been greatly improved. No "chopper" who has ever used a "Simmons" or a "Collins" ax, would willingly go back to the ill-shaped things in use fifty years ago. There is also a great advantage in the modern implement on the score of efficiency and cheapness. It is a maxim that "necessity is the parent of invention;" and the great use required of the ax in this country, may have been the chief cause of its improvement; at any rate we believe it may be said that the "American ax" has reached a perfection unknown in the old world.

◆

HIGH FARMING.—A correspondent of the *Ohio Cultivator* states that at the last exhibition of the Stark county Agricultural Society, the following account the produce of 7½ acres of land, owned and worked by Wm. Pinn, a "citizen of color," two miles from Massillon, and certified to by J. J. Hoffman and Samuel Pease, Esqs., was presented to the Board:

46 bushels dried sweet corn, worth $4,50	$207 00
16 bushels common [sweet] corn, $3,50	56 00
483 doz. brooms, or corn for that number, 62½	301 88
150 bushels broom corn seed, 20c. per bu	20 00
36 bushels corn, 25c	9 00
20 bushels apples, 26c	5 00
Fodder estimated worth	12 00
	$620 88

Practical Husbandry.

Market Gardening and High Farming.

Editors of the Cultivator—I have been taking a look at the market gardening and other modes of cultivating the soil in the vicinity of the city of Boston. The amount and profit per acre obtained by the systems of culture there practiced, is truly surprising.

I first visited the grounds of George Pierce, Esq., in West Cambridge. He cultivates twenty-six acres of land, all told. At the time of his purchase, his land was a light sandy loam, in a worn out condition, and would have been called the poorest kind of 'plain land.' He has spared no pains to redeem it from sterility. Manure has been largely purchased at the city stables, costing $7 per cord, when delivered on the farm. His whole annual purchase of manure amounts to from $800 to $1000. In applying it to the soil, the principal rule observed is, to put on all that can possibly do good.

Mr. Pierce considers that a light warm sandy loam is the most favorable soil for market gardening; and that although at first it may be comparatively unproductive, yet, when made fat by high cultivation, the crops are sure, and the land is more easily worked than heavier loam.

Seven acres are principally devoted to the raising of fruit. In the apple orchard, the trees stand thirty-six feet apart, each way. As they are now mostly large trees, the ground is pretty much given up to them. A moderate coat of manure is spread over the surface each spring and plowed in, without particular reference to the roots of the trees, but with special care to prevent the barking of their trunks. All weeds are kept down, that the trees may have full possession of the soil. The apples are in consequence large and fair, the product is large, and the fruit brings top prices in the market. While the trees were young and growing, heavier dressings of manure were applied to the ground, and the open spaces between the rows were occupied by vegetables for the market. By means of this constant working of the land, the trees begin to bear some fruit in six years from the time they are set out; and in thirteen to fifteen years, they will produce, in favourable seasons, an average yield of five barrels per tree. From four trees of the Porter apple, Mr. Pierce last year sold twenty-four barrels of apples, so large, smooth and fair as to command five dollars per barrel. Mr. Pierce is particular in so training the branches of his young trees as to prevent them from shading or otherwise interfering with each other; and the branches are encouraged to start out low on the trunk, to protect its sap from too high heat by the rays of the sun.

Four years ago, an apple orchard was planted out, embracing four acres, the trees standing in rows thirty six feet apart, each way. At the same time, about 1000 peach trees were planted between the rows of apple trees, twelve feet apart each way. The land, for several years previous, had been devoted to market vegetables, under high cultivation. The growth of trees is very remarkable; and the peach trees are now bearing finely. Being short lived, they will soon be out of the way of the apple trees; and then, for a few years, vegetables will be grown in the open spaces.

Nineteen acres are devoted to the raising of vegetables for the Boston market. As before intimated, this land is highly manured; it is also deeply worked, as deep as the plows can be made to run. A great variety of vegetables is here raised, in order seasonably to supply the successive requirements of the market. For several weeks, in the height of the producing season, two and three wagon loads are daily sent to market, embracing twelve to fifteen varieties of vegetables.

It is a leading and principal idea with Mr. Pierce, so to adapt different vegetables to the land and to each other, as to obtain at least two, and often four crops in a season, from one and the same piece of ground. For instance: on one plat of land, early radishes are sown broadcast, and early peas are sown in double drills, say five feet apart; at the proper time, either squashes, melons, or cucumbers are planted between the rows of peas: the radishes get out of the way of the peas, and the peas get out of the way of the vines; and thus three crops are successively matured. Enough manure is put on to the ground in the spring to afford full sustenance to all the crops. On other ground, early potates are raised, and marketed in season to sow turneps and obtain a full crop. Or perhaps after the potatoes the land will be sown in August to onions. In the fall they are covered with swamp hay or other litter; they remain in the ground through the winter without injury; in May following they are ready for market, and in June the land is ready for any other crop. Or perhaps after the potatoes, spinage is sown for greens, and the next spring the land is clear.

It is also a leading idea to get all kinds of vegetables into the market at the earliest possible period; for any article, appearing there a week or two before its usual time, commands a very high price, which richly rewards any extra labor or pains. Mr. Pierce has extensive hot beds for forwarding his various productions for an early market. He has 250 sashes, or some 1400 surface feet of glass, under which all sorts of vegetables are started. Last spring he went largely into the production under glass of early dandelions for greens. The receipts from this source, in March and early April, amounted to $3 per sash, or one shilling per surface foot of ground.

Tomatoes are sown under glass; and as it is important in early spring to economise the room in the hot beds, they are first transplanted from the seed bed to a vacant space in the hot bed, six inches apart, and when too large to stand so closely, they are again transplanted twelve inches apart, and when the weather is right, they are taken up and placed in the open plat where they are to mature. At one picking of tomatoes, this season, 32 bushels were obtained, which, from their earliness, sold at $1.75 per bushel. Pole beans are produced early by digging large deep holes for the hills and filling them partly with fresh hot horse manure; over that a suitable covering of earth is placed, and the beans are planted. For all *early* vegetables the ground is stoutly dressed with hot horse manure, which is plowed in, and which, by its fermentation, keeps the land warm and mellow, and brings the plants along very fast. Early potatoes are first started either on manure heaps undergoing fermentation, or in hot beds; and when the weather will admit, and the sprouts are six to eight inches long, they are carefully taken up by hand and transplanted in the drills in the open plats. This process forwards the crop from fifteen to twenty days. On one quarter of an acre, managed in this way, this season, 81 bushels of marketable potatoes were dug, which, for their earliness, sold at $1.75 per bushel, or at the rate of $567, per acre.

In visiting Mr. Pierce's grounds, I was most interested in a field on the borders of Spy Pond. Originally a high bank, shut down nearly to the water. This bank was dug away and tipped into the pond, until a long strip, or three acres of land was made, which was raised eighteen inches above the surface of the water. The earth taken to make this land, was a sandy and fine gravelly subsoil, with the exception of two or three inches of the top, which was surface mould, placed there to form an immediately tillable soil. The waters of the pond will come into and stand in a hole dug any where on this land, more than eighteen inches deep; and the moist exhalations from below keep the surface so moderately moistened, that the growing crops do not suffer in the driest seasons. The land being of a sandy and fine gravelly nature, it admits of much moisture without becoming cold, heavy or baked; and as it has been abundantly enriched with manure, it produces the finest of vegetables when, perhaps, other fields are suffering severely with drouth. The crops are grown upon ridges or beds, formed by back furrowing with the plow, and varying from two to six feet in width. This is done to prevent any bad effects that might otherwise arise from heavy rains, falling upon a flat surface, already moist enough. In general, three crops are taken from this land, each year. For instance, on the wide beds, a row of early beets grows on each border; a row of hills of summer squash in the centre, and celery in the dead furrows. The beets are first off, and then the squashes, and the soil composing the beds is used in earthing up and bleaching the celery. Mr. Pierce's average *weekly* sales of *vegetables* for nine months, in 1849, were as follows:

In March,	$49 00
April,	50 00
May,	80 00
June,	90 00
July,	140 00
August,	139 00
September,	140 00
October,	180 00
November,	39 00

The total cash receipts for the sale of fruits and vegetables, for 1849, were as follows:

Of Peaches,	$591 60
Porter Apples,	148 60
Bartlett Pears,	18 12
Bell do	4 75
Greening Apples,	12 50
Baldwin do (windfalls.)	36 00
39 bbls do picked,	185 50
	$997 07
Total vegetables of all kinds,	2,629 72
	$3,626 79

These are certainly large receipts to derive from the products of twenty-six acres of land. It is true that Mr. Pierce has the advantage of a ready market and good prices; but after making every allowance that exists, or can be thought of, I think we must all conclude that high cultivation is the true system; that

> " '*Tis folly in the extreme* to till
> Extensive fields, and till them ill;
> For more one fertile acre yields
> Than the huge breadth of barren fields."

I next visited Leonard Stone, Esq., at his farm in Watertown. Mr. Stone's home farm consists of 15 acres of woodland and pasture, 25 acres of reclaimed meadow, and 80 acres devoted to fruit, market gardening, and a rotation of field crops. The largest portion of his tillage land is a stiff, moist loam, resting on a substratum of clay; and although the surface is quite rolling, it requires a great deal of draining to fit the soil for profitable tillage. The balance of the tillage-land is a light, dry, warm loam, with some very gravelly knolls, and the whole rests upon an open gravelly subsoil.

The owner has for several years been clearing his tillage-fields of stones, which were formerly so numerous as to be much in the way of the plow. They have been sunk in the construction of drains, and thus the surface of about every acre of the stiff land has been relieved of both stones and surplus moisture. The ditches for drains are dug about three feet deep, and of convenient width to work in; in them, drains are first laid, six inches wide and ten inches high, of small cobble stones, and covered with larger sizes of the same; the ditches are then filled with small stones, to within a foot of the surface of the ground; a layer of shavings or tough sods is then put on, and the work leveled up with loose earth. The drains thus constructed have stood from eight to twelve years, and still work well.

There are two reclaimed swamps on this farm, of about twelve acres each. They are underlaid at suitable distances with stone drains, wherever there is sufficient fall to the land to produce a good draught through them; and where the land is nearly level, open ditches are made. The open drains used frequently to become inoperative by the washing and caving in of their banks—occasioned by high freshets in the spring. After various experiments, the following plan for their protection was adopted: As early in the summer as the water had fallen away so as to admit of working, a commencement was made at the lower end or outlet of the ditch, by throwing a temporary dam across it, a few rods above or up the ditch; the portion thus freed of water was then cleared out; the sides were made of a uniform and proper slant; narrow trenches were dug, four inches lower than the natural level of the bottom of the ditch; sods were cut from the swamp, six inches wide, eighteen inches long, and four inches thick; then, commencing in the narrow trench, four inches lower than the bottom of the ditch in order to prevent the undermining of the work, and following up the slanted sides with one course thick of sods, and breaking joints in the upward course the same as is done in laying brick, and laying the sods grass side down, the wall or sodding was carried up nearly to the surface of the swamp; a sufficient portion of the surface was pared down to a level with the wall to admit of a sod on top, laid grass side up, and level with the surrounding swamp, and resting on the sod wall and on the natural ground; the face of the banks was then trimmed smooth with a spade, the temporary dam moved further up the ditch, and so on, till the whole line was completed. The grass immediately started from the edges of the sods, and before winter, the whole surface of the banks was well covered with grass. These banks have stood perfectly for nine years.

In draining the bog meadows, a ditch has been dug three feet deep and four feet wide, the whole length of the border between the uplands and the meadows. In this a stone drain was first made, then the ditch filled with stones, and a stone wall built on top for a fence, by which three purposes have been accomplished; the stones from the uplands have found a resting place, out of the way of the operations of tillage; the springs flowing into the swamps from the uplands have been cut off; and the earth taken from the ditch is just the thing for a covering for the meadows. When the drainage is completed, those parts of the meadow that have dried off enough to bear up a team are plowed, and those that are still too wet and miry are turned over with a bog-hoe. When the surface of the meadow is frozen, clay, loam or gravel, whichever is handiest, is carted on and spread one and a half inch thick, or at the rate of about an ox-cart load to each square rod of ground. On the top of that a good coat of compost made of loam and manure is spread, and then a half bushel each per acre of herds-grass and red-top seeds sown. After this, most of the land can be plowed; and as often as the cultivated grasses need renewing, the sod is turned over in September with the plow, manure applied on top, and grass-seed sown. Forty tons of hay have been cut in a season, on twelve acres of the reclaimed meadow.

Mr. Stone plows and manures about 25 acres of his upland, yearly. A part of this, however, is not cropped at all, but is kept open for the benefit of the trees growing thereon. The balance is devoted to the growing of vegetables for market, the raising of carrots and other roots for the stock, and the cultivation of field crops. For the land that grows vegetables, he purchases horse manure from the city stables and mixes it with compost made by the hogs, in order to start the crops early. For all other crops, the manure used is wholly made on the farm, and is applied at the rate of thirty loads, of twenty-five bushels each, per acre. Mr. Stone is in favor of deep tillage. He plows his land as deep as the soil will admit, gradually increasing the depth, until, on some of the fields, his largest sod plow, will go no deeper. He thinks that almost any land may be advantageously deepened by turning small portions at a time of the subsoil to the surface, to be converted by sun, air, frost, and manure, to productive loam. Under this system of deep plowing and high manuring, his crops are all luxuriant, and when those portions of the land devoted to a rotation of crops are laid to grass, he thinks they give him an average of two tons of hay to the acre, at a first cutting. Two hundred loads of first crop hay have been put into the barns this season, fifty of which, with the rowen crop, the corn-fodder, roots, &c., will keep his own stock, and leave the balance for market.

A good deal has been done, with excellent effect, in the admixture of the different soils upon the farm. Four horses and four oxen are kept for farm-work, and at leisure times they are employed in exchanging soils. The muck from the low meadows is drawn to the yards for compost, and from thence to the upland fields. As before remarked, the lowland meadows receive a coating of clay, loam, or fine gravelly subsoil, the latter of which is found to be the best, for it supples in greatest quantity, those matters that give strength of stem to the cultivated grasses, and which are deficient in the peaty soils. In various places on the upland stiff soil, the underlying clay comes through to the surface, and the land retains too much moisture, in some seasons. On all such places, from one to three inches of sandy or gravelly loam are spread, with an effect upon the crops that is apparent to the observer in a moment.

So, too, on the dry, gravelly knolls, an application of two or three inches of clay from the stiff lands, changes the whole aspect of the vegetation growing there.

The most important production of the farm is fruit; the average annual yield of Baldwin and Russet apples, being about 1,000 barrels. Other varieties are raised, but these two are the principal. The old orchards are manured and plowed each year, but no crop is taken except that afforded by the trees. In younger orchards, the open space between the rows of trees are devoted to vegetables for market. The apples are carefully picked from the trees by hand, packed in barrels, and stored in a dry, airy fruit cellar under one of the barns. The farm produces a variety and abundance of other fruits, such as pears, peaches, plums, cherries, quinces, and summer and fall apples.

About ten acres are devoted to market vegetables, in all the varieties. The details of their cultivation would be a repetition of those already given in the account of Mr. Pierce's cultivation. While at Mr. Stone's I saw a market wagon loaded, and had the curiosity to take an account of the various articles sent off. They were as follows: tomatoes, onions, beets, summer squashes, cucumbers and mangos and string beans for pickling, potatoes, green corn, pole beans, apples, peaches, and pears.

Mr. Stone has a farm of 60 acres a mile or two from home, which he rents for $600 per annum. He remarked to me that his tenant paid his whole rent last year from the sales of the cucumbers raised on five acres—leaving the proceeds of the remaining 55 acres at his own disposal.

Mr. S. keeps about 20 head of cattle and horses, and from 40 to 60 hogs. Shoats, weighing from 100 to 120 lbs. each, are purchased at Brighton market, spring and fall, fed six months, then slaughtered and taken immediately to market. At killing time, they average from 275 to 300 lbs. each, dressed. All the refuse fruits and vegetables of the farm are fed to them. A kettle or cauldon holding 600 gallons and set in an arch, is mostly filled with vegetable products, to which is added six bushels of meal, and the whole is then boiled. The contents when cooked are taken out, and to the mass is added an equal measure of *slimes*, purchased at a starch factory. These *slimes* are the best part of the washings in the process of making starch from flour. For the last six weeks, the meal is increased in order to get the hogs into a high state of fatness. The yard in which the hogs run is well supplied with muck, turf, weeds, and all sorts of refuse litter, and these materials are mingled and enriched by the swine. When not at work, the horses are stabled all, and the oxen most of the year. The other cattle of the farm are stabled most of the time in the winter, and the cows nights through the summer. Their stables are directly over the barn cellar, into which the manure goes; suitable quantities of muck, loam, turf, &c., are frequently added to the manure, the hogs have free access, and the materials are well mixed. In these ways some 600 loads of compost, of twenty-five bushels each, are annually made.

Mr. Stone showed me a statement made by him, at the request of the Commissioner of Patents, of the whole amount of his receipts and expenditures for three years. Here it is:

Whole amount for hay sold,		$4,257 00
do do pork,		4,552 00
Fruits, vegetables, stock, &c.,		10,025 00
		$18,834 00
Amount paid for labor,	$3,521 00	
do grain and feed for hogs,	2,058 00	
do shoats,	1,575 00	
do manure,	373 00	
do provisions,	260 00	
do goods,	707 00	
do taxes $310, and stock, $309,	619 00	
do miscellaneous items,	1,025 00	
		10,138 00
		$8,696 00

I think these results quite naturally remind us that too many of our farmers, by scattering limited labor and means over unlimited acres, mostly dissipate the former, and at the same time wear out the latter; and fertility having been once sapped, the further application of the old system, becomes emphatically, a lengthening, wearisome chase after lean and scattering crops. In the older settled districts of our country, we need to commence a severe condensation in our farming,—to learn a juster adaptation of capital, labor and land to each other. Our farmers can only realise substantial profits, and maintain independence and true dignity, by good cultivation.

Scanty crops offering no cheer to labor, it becomes laggard and faint: large crops stimulate labor; it easily surmounts obstacles, burdens lighten; it becomes pleasure. F. Holbrook. *Brattleboro', Vt., Sept. 5, 1850.*

Agricultural Education.

Education forms and perfects the mind. It commences with the first dawn of intellectual light, and is not completed till the senses are paralised by age or destroyed by death. The early instructions of parents, the influence of associates, the accomplishment of labor, and the observations and experiences of daily life, all help form the individual character and educate the man. A small part of the sum total of education is derived from books—it is received from all sources where the senses communicate.

A good education, is that amount of knowledge in kind and quantity, that fits an individual for his situation and pursuit in life, and to discharge aright the duties that the Almighty imposes upon him. Although the education of all commences alike and for a few years is the same, yet different vocations require a different direction of the mental powers

Hence the clergyman, physician and lawyer, after pursuing their classical studies together, take widely different courses as each fits himself for his particular occupation. The merchant, mechanic and farmer are school-boys alike, but when books are laid aside, the first engages in learning the mysteries of trade; the second educates his mind to contrive and plan his work at the same time that he educates his hands to perform that work skillfully, and the other goes to

> "Work, work, work,
> From morning until night,"

his severe physical labor unfitting him for mental exertion; the mind in some degree becomes inactive, and consequently he is not in much danger of porgressing beyond the knowledge of his fathers. In regard to *book knowledge*, the notion that was formerly almost universal, prevails to a great extent now, that the farmer and mechanic required but very little. To read, write and cypher with facility—but few, however, acquired as much as this—was considered enough for all practical purposes, though if the scholar was "quick to learn," it was well enough to know something of geography, grammar and history. When *too old* to go to school, (which happens just about the time he is old enough to be of service on the farm,) books must be laid aside so as not to interfere with labor. No wonder that in years past there has been such a *rush* into the professions by those who loved study, and into mercantile and mechanical pursuits by those who loved excitement. The drudgery of the farm could not be endured to the extent that might have been thought desirable, although opportunities to "go a fishing" and the freedom of "Independence" and "Training" days, operated as a kind of safety-valve to relieve the pressure incident to a monotonous life.

Farmers as a class are *not* educated. They do not study like the professional man, to prepare themselves for their vocation and to become acquainted with all its details. Surrounded by Nature in all its sublime manifestations, every year they witness the rise, progress and decay of vegetation; they see leaf and flower expand, seed and fruit grow and mature; they walk the earth and breathe the air, profoundly ignorant of the laws that govern the vegetable world; of the process of vegetable life in the production of leaf, flower and fruit; of the elements and composition of the earth and air; of the relation subsisting between the mineral, vegetable and animal kingdoms, and of the changes that are constantly taking place in them. Almost all agricultural knowledge has been gained by practical experiment, which is a slow and tedious process, and influenced by so many controling circumstances that it is seldom to be relied on as absolutely correct. Not of the shepherd alone is the language applicable,

> "The *little* knowledge he had gained,
> Was all from simple nature drained."

We have just entered on the threshold of agricultural knowledge. Before us is a broad expanse, vast and limitless, all unexplored, and like the Israelites on the borders of Canaan, we see the promised land but are afraid to enter. We do not feel able "to go up and possess it." In view of the sciences that relate to agriculture, the immensity and the nature of the knowledge which they contain, we are almost led to say with the Psalmist, "Such knowledge is too wonderful for me; it is high, I cannot attain unto it."

The early education of children is under the direction of their parents, who are naturally their teachers. As is the parent, so to some extent will be the child. He forms the same habits, adopts the same ways of thinking, has the same kind of ideas and the same opinions. If the parents are unlearned and stupid, thinking little and reasoning less, there is but little prospect of the child being otherwise. Early teachers and associates exert a powerful influence, and according to the effects of such influence will be the child's future destiny. In this sense "the boy is father of the man."

Children are inquisitive, observing and imitative. If these faculties are unrestrained they will be ever learning. They soon become acquainted with the habits and uses of domestic animals, and the methods of performing the various labors of the farm. As they grow older they learn to distinguish the different productions of the vegetable kingdom—as trees, grasses, grains and weeds—and the different kinds of each. But why is their knowledge of nature restricted to a certain amount? Why can they not learn Botany, Geology and Mineralogy as easy as Grammar, Geography and Mathematics! These sciences might be partly learned while performing the labors of the farm. But here is a difficulty—they have no teacher. Farmers have not learned such things, and they do not see the need of it, and as soon as their boys are large enough to labor they cannot afford to send them to school, especially in the busy season of the year. But if they knew their true interests they would see that they could not afford to have them ignorant.

But, as before implied, education is not confined to schools. An intelligent, scientific farmer can instruct his children so that in their education there will be a constant advancement. The lessons and illustrations can be found in their walks and labors; they can then investigate the phenomena of Nature, and if they please learn science. By examining plants they may learn their names, the class and order to which they belong; the different parts of stalk, leaf and flower; the relation each sustains to the other, and the office each performs in the economy of the whole plant. Flowers, those "perfect specimens of God's handiwork," afford a study that may be made intensely interesting, as exhibiting infinite wisdom and skill in their formation; beauty in their color and shape, and perfection in the purposes they serve. Also, minerals may be examined and compared, their properties investigated and the proportion in which they exist in the composition of different rocks learned. It may be shown that the crumbling down of rocks and the admixture of vegetable matter, form soils, which according to the presence or absence of certain elements are rendered fertile or barren: that the elements which compose vegetable substances are derived from the soil and atmosphere, and that these support animal life and promote animal growth. In this way, by improving the means within reach, the young may be educated in the sciences that relate to agriculture, and there may be a constant progression. But some perhaps who almost consider it sacrilege to be wiser than their fathers were, may inquire, "What is the use of all this learning?" True, it may not be of much *use* simply to know what is quartz, feldspar, limestone, potash or soda, or to know that stamens and pistils are a part of blossoms, but it is beneficial in connection with this, to know what soils are adapted to different vegetables; what vegetables are best for the growth of animals; and what causes fertility or sterility in plants that produce fruits, as well as in soils that produce vegetables. We might retort back upon such querists, and ask them what is the use of ignorantly laboring a whole life in obedience to the thought, "What shall we eat? or, What shall we drink? or, Wherewithal shall we be clothed?" and measure our success by the amount of property we expect to leave our heirs?

"A man is known by the company he keeps," and equally as well by the paper he takes, or the book he buys. We do not expect to find an intelligent family where there are no papers or books, neither do we expect that farmer to keep up with the times, who does not read his agricultural journal. The various agricultural books and papers now published, have a wide-spread influence, and may be considered as great and efficient helps in acquiring an education, and as such, are not to be neglected.

Some of our colleges have established an agricultural department in their respective institutions, for the purpose of teaching agricultural science. This is very laudable, but it does not fully meet the wants of the people. Practice must be taught with theory, to be effective; for, though a man may understand all science, if he does not know how to labor, he would starve if the support of his physical system depended upon his own exertions. The efforts that have been made in New-York and Massachusetts to establish Agricultural Colleges, are worthy of much commendation, and will no doubt, ere long, be successful. Such schools, rightly conducted, will exert a tremendous influence over the future destiny of our country, although but few, comparatively, may avail themselves of the facilities thereby presented, for acquiring an education. But their beneficial effects will be in a great degree owing to their reflex influence. This will be according to the success of the graduates in the communities in which they reside and labor. If they are successful in carrying out the principles they have learned, their neighbors will adopt the same measures, and pursue a like course in the management of their farms. Thus knowledge will be increased. But no doubt the instruction imparted in these schools would be much more efficient if the agricultural and scientific education of the pupil was commenced by their natural teachers at home. Having learned the rudiments of science, they would make greater proficiency on entering the schools, and when their school education was completed, they would be better prepared to pursue their studies in the book of Nature.

There is to the farmers "a good time coming," undoubtedly. They are awaking from the long, dreamy sleep of years, to a sense of their capabilities, their rights, and their proper position among men. The advantages of a good education are being appreciated; science is called to the aid of experience; better modes of husbandry are sought out and adopted, and every new discovery is leading to others no less important. Indications of good are all around. To the young, especially, who have chosen agriculture as their vocation, there are encouraging prospects ahead, such as their fathers never knew. With so many means within their reach, to acquire an education suited to their wants, it may not only be a pleasure, but it is positively a *duty* as it will be so necessary to success in life. There should be a love of knowledge, and a resolution to obtain it, and—

> "In the lexicon of youth, which fate reserves
> For a bright manhood, there is no such word
> As FAIL."

East Weare, N. H. W. L. EATON.

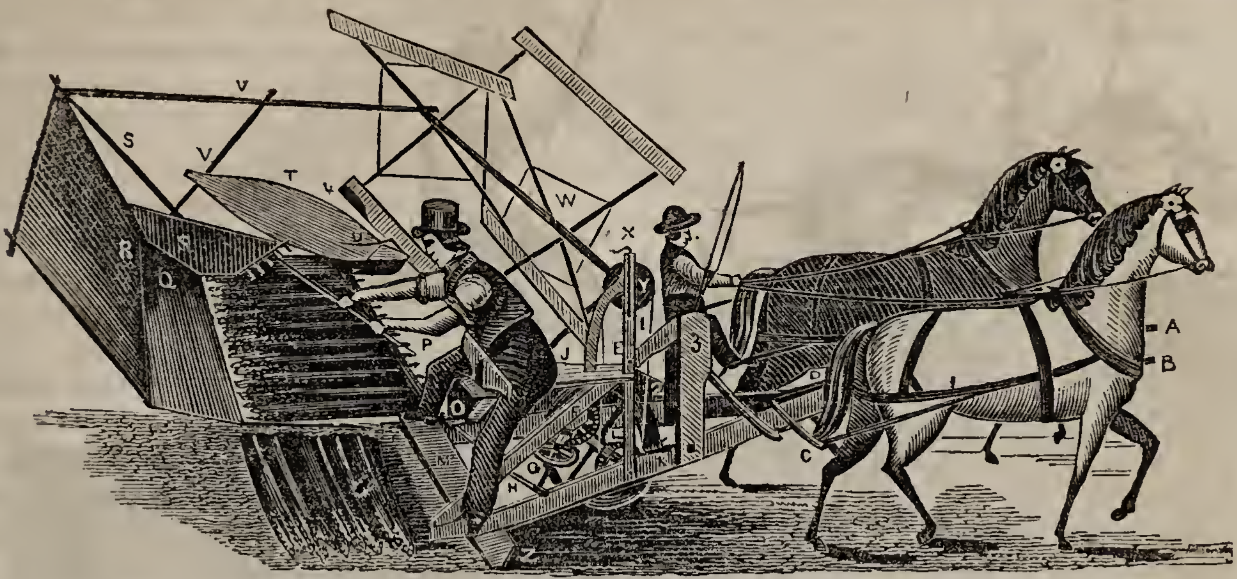
HARVESTING MACHINES.

In our November number, we gave a letter from Mr. DENNISON, an English correspondent, making some inquiries in relation to machines used in this country for cutting grain. In answer to those inquiries, we have received several communications, furnishing much useful information. In connection with these, we give also cuts of Mr. MCCORMICK'S and Mr. HUSSEY'S machines. EDS.

Letter from the Inventor of McCormick's Reaper.

EDITORS CULTIVATOR—I most cheerfully comply with your request, in furnishing the following "particulars respecting Reaping Machines," in answer to your London correspondent, so far as I can give the information he desires.

I have manufactured at *this place* the three last years, for use on the prairies of the *west*, 500, 1,500, and 1,600 of "McCormick's Patent Virginia Reapers," and am now engaged in providing a like supply of them for the next harvest. I sell my reaper for $115 cash, or $120, part cash and part on



M'CORMICK'S REAPER.

time. Four horses (or mules,) are required to operate the machine throughout the day, without a change, though the draft is not more than two horse power; and it is attended by a boy to drive the team, and a man to rake the grain from it into gavels of suitable size for sheaves. Six or seven men, (or "women," as the case may be,) are required to bind and shock the wheat. This is the estimated labor of harvesting wheat that stands up, and yields, say twenty to thirty bushels per acre. If the wheat be heavier, and fallen, the operation will of course be more difficult, and the speed retarded.

This reaper has uniformly been warranted to cut one and a half to two acres of wheat or other small grain per hour, (equal to fifteen or twenty acres per day;) to save at least three-fourths of the wheat that would be scattered by ordinary *cradling;* and it is also warranted to be durable. Perhaps the best evidence of the *satisfaction* given by the Reaper has been the continued large and increasing demand for it. It is constructed to cut as high or as low as required, and the *saving* of wheat by it, over that cut by the *cradle*, is estimated at not less than one bushel per acre, and in some situations more; the whole operation being more perfect than can possibly be done by hand labor in any way, and without being materially obstructed by "May-weed, thistles, dock, &c." "What will be the expense, per acre of wheat," may be calculated from the foregoing. The following is the estimated cost here, as taken from a certificate signed by some hundreds of farmers who have used this Reaper, viz:

Cost of Cradling and binding 16 acres of wheat; 8 cradlers and 8 binders, at $1,25 each,		$20 00
Cost of cutting and binding 16 acres of wheat with the reaper; two men, or a man and a boy with the machine, at $1,25 and $1.00,	$2 25	
Five binders, (the grain being raked into gavels,) at $1.25,	6 25	
Use of four horses, (this number of horses in fact only nominal,)	1 50	
Total cost,		10 00
Which deducted, shows a saving in labor of half the whole expense, being per day saved,		$10 00
Amounting at $10 per day, in cutting a harvest of 240 acres, to,	150 00	
To which add one bushel of wheat per acre, saved extra, (which is the lowest estimate made,) at 40 cts per bushel,	96 00	
Making a total saving, in a harvest of 210 acres, of..	$216 00	
The cost of the labor per acre by this estimate, is	62½	cents.
From which deduct for a bushel of wheat saved,	40	
And the actual cost is found to be, per acre,		22½ cents

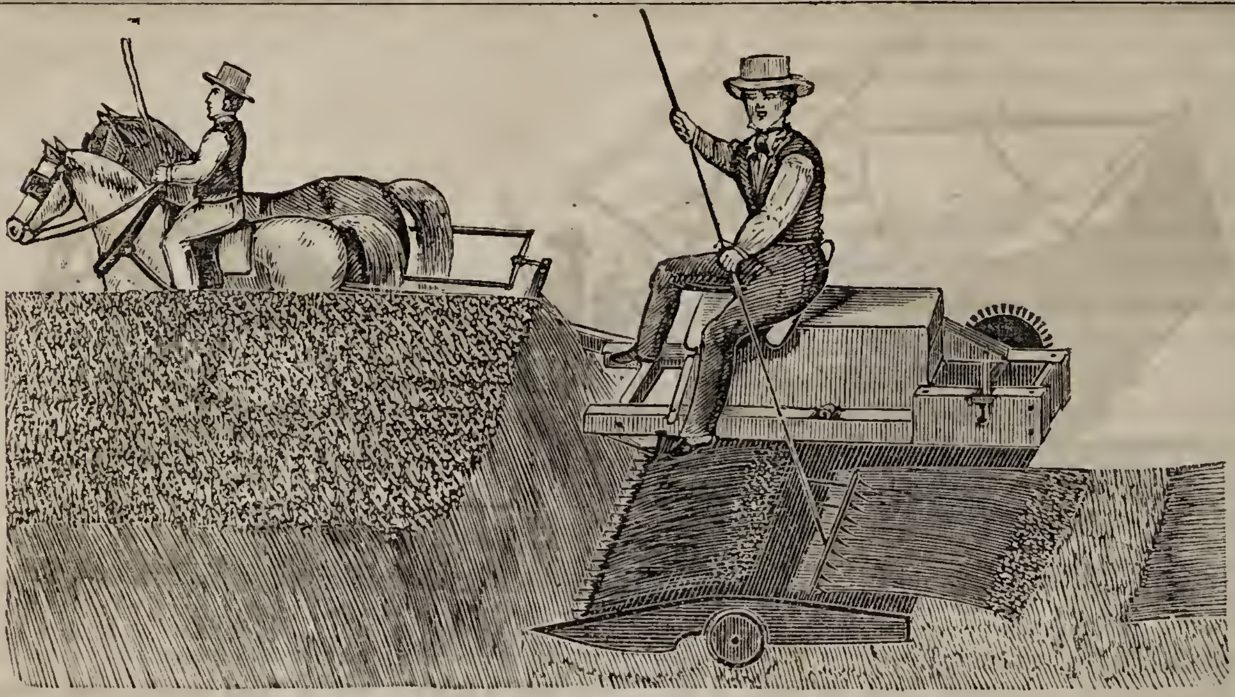
I may add that this reaper has recently been patented in England, with a view to its immediate introduction there,—one of them having been prepared for exhibition at the great World's Fair, in May next, and for which the gold medal of the "American Institute" has been awarded. C. H. McCormick. *Chicago, Ill., Nov. 12th,* 1850.

Letter in reference to different Reapers.

Eds. Cultivator—Four years ago, the first harvesting machine was brought into this county, and so fast did such machines come into favor with the farmers, that for the two seasons past nearly all the grain has been cut by them. Mr. McCormick, when introducing his Virginia reaper, warranted it to cut one and a half acres per hour, and save one bushel per acre more than by the ordinary mode of harvesting, or it might be returned. No machine has ever been returned to my knowledge, or any dissatisfaction expressed on account of a failure to fulfil the warrant.

This machine, as well as others, has been greatly improved, while a host of new ones are brought into the harvest-field every year. In reply to the inquiries of your London correspondent, I would say these machines are worked by horses, sometimes two being used, but more generally four. Some of the machines require the horses to go by the side of the standing grain, while the machine works on one side. The cutting apparatus of others is directly in front of the horses. Some drop the grain directly behind, which must be bound before the machine comes round again, while others drop it at one side, and the whole field may be cut before any of it is removed. Some require a man to rake the grain from them; others are constructed for self raking, and one has been brought into the field the past season that does its own binding.

The cost of these machines is from 75 to 125 dollars; the amount which they will cut per day, varies from 12 to more than 20 acres. The price charged per acre for cutting, is from 50 to 62½ cts. From seven to nine men are employed to bind and shock the grain. Women's labor is too scarce and valuable to be employed in tying grain. These machines cut all the grain, and if the raker is careful none is scattered, and if the binders carry a rake and use it, none need be lost. Fields harvested by these machines present a beautiful appearance. The stubble is uniform in height, while no prostrate, scattering straws speak of waste. If the binders have felt at all interested in doing their work well, there is nothing to glean with the sickle, bagging-hook, or rake. Weeds, brush, pitchforks, rakes, if standing



HUSSEY'S REAPER.

in the way, and even horses legs, are all cut smooth alike. Weeds make heavy raking, that is all.

Now as one man can cut from two to five acres per day with a cradle, of the grain that stands upright, and another can rake and bind it, it may be supposed that there is no great difference in the expense per acre, by hiring a machine or cutting by hand; but other considerations render the machine valuable in the estimation of farmers. First, it is supposed that it saves over and above other modes enough to pay for cutting, if not the whole expense for harvesting, and then it cuts lodged and crinkled grain readily, saving much in both labor and grain; and again, it enables us to *cut our grain in* season, which we could not do with the limited amount of help in the country.

There are other machines at work in the harvest-field, differing from those to which your correspondent's inquiries alluded. They take the *heads* of the grain only, dispensing with binding and shocking. This machine is really a labor saving machine, yet, on account of the prejudice in favor of the time-honored custom of binding grain, they are working themselves but slowly into use. Those who have tried them cannot be induced to return to the old method. The grain as it is gathered in and cut by these machines, is thrown into a canvass which carries it one side and deposits it in a wagon-box, made for the purpose, and driven by the side of the machine. From sixteen to twenty acres can be cut and put in rick in a day, by six men and eight horses. The only objection raised against this mode of harvesting, is the danger of the grains damaging in the rick; but the testimony of all who have tried it is in its favor. In a damper climate than this, it might not save well; but here, with our sunny sky and pure air, I think there is no danger. If we had your correspondent's two hundred acres of wheat here on the prairies, we would, in two weeks time, with six men and eight horses, put it all in rick for him, wasting no more than he will with all his men and his women.

We are doing more here than your correspondent or many of your readers may be aware of. Horses will soon do our haymaking as well as harvesting. For three years or more, there has been in use a harvesting machine that has been made to cut timothy and timothy and clover mixed, but not until this year has there been any thing presented to the public that would cut our prairie grasses, some of which are the most difficult of all to cut by machinery. At the late fair of the Buel Institute held at Granville, Putnam county, two machines of different patterns were exhibited, and tested in cutting prairie grass, to the entire satisfaction of all. One of the machines clogged in some of the worst places, but the other cut its way through every thing as close or closer to the ground than a scythe, leaving the grass in a much better condition to dry. I learn that one of these last mentioned machines was used some few miles east of us, working to the entire satisfaction of its owner and all others who witnessed its operation. Both of these machines are also designed for harvesters, and both are manufactured at Ottawa, in this county. The price of the latter I understand is 75 dollars. L. L. Bullock. *La Salle County, Illinois, November*, 1850.

Letter in reference to Hussey's Reaper.

Editors Cultivator—In answer to inquiry about reaping machines, page 379 of the Cultivator for 1850, I would state that I have used one of Hussey's for two years. Our wheat crop was not heavy in straw in 1849, and we cut with two horses, changing twice a day, on an average, rather over fourteen acres. This season the straw was very heavy, and I could not get over from ten to eleven acres cut per day, even using three horses at a time, and changing horses twice or oftener per day. The machine ought never to be worked with two horses, except the grain is quite light. It requires about seven men to bind after the reaper, one man to drive the team, and another to push off the sheaves from the platform of the reaper. In this way, I think wheat can be taken up as clean as in any way I am acquainted with; even the best reapers cannot do it so clean. It leaves a stubble of about seven and a-half inches in length; it can be cut lower, but then it is harder on the team. Much "May-weed" might impede the cutting somewhat, but docks and thistles would not hinder. Any grain requires to be fully ripe before it is cut with the reapers, as it is impossible for a man to push off the cut grain from the platform when cut in a raw state. It is, on the whole a wonderful labor-saving machine, as even in heavy grain, nine men may cut, bind and shock, ten acres per day. The reaper does not work well when the grain is wet, but no farmer ought to cut his grain in that state. When grain is all laid one way, the machine will cut it beautifully by the team working in a direction opposite to that the grain lies; but if it is twisted in different directions, the machine will not work.

Hussey's reaper costs $100 at Auburn. J. JOHNSTON. *Near Geneva, Nov.* 25, 1850.

Notes of a Tour in Central New-York.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., Dec. 5, 1850.

MESSRS. EDITORS—The last days of 1850 have come, and find me still lingering in Wayne county; a district which constantly suggests fresh topics of a most interesting character. I hope however, to tear myself away before we have advanced far into 1851. At the conclusion of my last letter, I had just returned from an excursion with Mr. PARDEE, as far as the shores of Lake Ontario. A day or two afterward, I drove, with Mr. HYDE of Palmyra, a few miles south into Ontario county. One of the most interesting farms that we visited, was that of Mr. RUSH. He owns a large number of acres, and keeps a numerous stock, feeding out all of his corn, barley, oats, &c. on the premises, and only selling off the wheat. In this way he makes much manure, and keeps the land in fair condition.

The wheat crop of the present year had been so good in all this region, that very many of the farmers were carrying their corn off the land preparatory to sowing wheat. Mr. RUSH, at the time of my visit, was clearing a corn-field by placing the stacks together in rows, and had commenced harrowing in the wheat without any plowing. This was certainly a labor-saving method, but I doubt if it will afford very heavy wheat as a return. By way of illustrating the short-sighted rapacity of some farmers in this section, I mention a case of which I was told by Mr. Rush. He named a person who had shortly before cut a heavy second crop of clover from one of his fields, and had immediately gone on to plow it for wheat. It is fair to say that even on this rich land, such farming is considered *rather exhausting*. I saw in this neighborhood, an instance of the evil which results from making drains of large loose stone, imperfectly covered on the top, as such must always inevitably be. A man was at work upon a drain of this description, into which the water had broken from above, washing in so much earth that it had completely choked, and required taking up for nearly its whole length. If this drain had been covered with small stones above the large ones, such a catastrophe could scarcely by any possibility have occurred.

From Mr. RUSH's we drove through the town of Farmington to Macedon, where we passed a few moments with the well known horticulturist and author, Mr. J. J. THOMAS, walking through parts of his extensive nurseries, and looking at some of his fine fruit. The nursery of Mr. SMITH was in this neighborhood, but our limited time forbade the call we had contemplated.

Mr. Hyde very modestly waived my visit to his own farm in favor of some others; but from what I saw and heard, he also must be included among the *improving* farmers of this section. I noticed as we passed along the road, a superb field of corn belonging to him, and quite a number of acres just brought in from swamp and wood.

The fair at Palmyra, was excellent in many respects, and the show of stock acknowledged by all to be very good. I saw some fine Devons, and some showy horses. Sampson, a Clydesdale stallion, I should judge, attracted much attention. After the list of orchards and nurseries that I have mentioned, it may easily be conceived that the show of fruit was uncommonly good.

From Palmyra, I went via Canandaigua, Geneva and Seneca Lake, to Ovid, where the fair of the Seneca county Society, was held this year. This fair was more numerously attended than any of those at which I was present. I arrived too late for the show of stock. The horses were said to have been good, but the cattle few in number, and rather inferior in quality. The exhibition of fruit did not appear so well as some that I had previously seen, perhaps because there was no place properly arranged for its reception and protection. On reaching Ovid, I found Mr. DELAFIELD, the President of the Society, at his post, as a matter of course, and exerting every energy to keep up the interest of the occasion. The name of JOHN DELAFIELD, will hereafter be associated with all the best interests, and all the progressive agricultural movements of Seneca county. If we could have but one man of such enterprise, perseverance, and sagacity, in each county of our Union, the revolution that our country would witness within the next few years would be quite surprising; the cause of improvement could not then languish as it too often has alone.

I saw the plowing at Ovid, and thought it generally very good; the Michigan subsoil plow was at work, for the purpose of showing its operation. This seems to me a truly valuable implement; the turf and grass are turned by it very completely, and the surface is lfet in a mould like that of a garden; at the same time it possesses the great additional advantage of plowing deeply. In a stony subsoil, or one that was very much compacted and indurated, this plow probably would not work so well as in the mellow soils where I saw it tried. A real subsoil plow of the old construction, would be the only thing for the more obdurate soils.

I may notice here as an instance of the interest which is felt by the people of this county, in any thing relating to improvement in agriculture, that on repairing to the court-house before the hour appointed for the address, I found the room already densely packed, and a large number waiting outside utterly unable to obtain admission. It soon became evident that we must adjourn to the open air, and the address was delivered from a temporary stage erected upon the court-house steps, to a large audience, that testified by constant attention, the desire of its members to gain knowledge connected with their profession.

On the day after the fair, under the guidance of Mr. Delafield, I traversed a very considerable portion of Seneca county. We first drove south from Ovid to Lodi, passing on our way thither, through numerous handsome farms, seemingly under good cultivation. Having a long circuit to make, and being obliged to reach the north end of the county by evening, we were compelled to pass many interesting farms and good farmers, without making any stop. The houses on the main road through Lodi, reminded one of New England, in their large size, their neat comfortable appearance, and the little evidences of taste as well as of thrift which appeared about many of them. From the high grounds of Lodi, may be seen both the Cayuga and Seneca lakes for a large portion of their length. The roads were all laid off at right angles at distances of a mile, and running straight across from one lake to the other.

In descending toward Seneca lake, we experienced some genuine farmer-like hospitality from Mr. Wyckoff of Lodi Mills, and afterwards under his guidance visited the Lodi falls. These are in a deep cleft of the Moscow Shale, worn out probably by the action of water to a far greater than its original depth. The stream is insignificant, and though it falls in one place 150 feet, makes in summer but little show. The amphitheatre of cliffs however, which it has scooped out below, is some 200 feet in perpendicular height, and is magnificent beyond description; it will richly repay a visit from all who can appreciate the sublimity of such a scene. The falls can be reached in ten minutes walk from Lodi landing, where a steamer calls four or five times in each day. At one place in the face of these cliffs, native alum appears upon the surface in considerable quantities; it can be detached in pieces of medium size, and the rock from which it exudes may at some time be valuable for the purpose of alum making.

On emerging from the foot of this defile, we found ourselves on the shore of Seneca lake, and among the remains of an Indian orchard. Apple and peach trees were here in bearing, which escaped the destruction made by Sullivan's expedition against the Six Nations. Some of the apples that we picked up under these trees, were quite handsome, and showed that the Indians must have selected their fruit with some care.

From this point we commenced our journey northward again, passing through Ovid, Romulus, and Fayette, arriving just after dark at Mr. Delafield's place, near Geneva. Much of the soil in Fayette is quite heavy for this section of the county, and decidedly wet; all that is necessary to bring it at once into a highly productive state, is the tile drain. Mr. Delafield's farm has already been described by others on various occasions, and I will therefore only say that it bears evidence of skilful management in every part. The farms of Mr. John Johnson, and of Mr. Foster, are also excellent schools for the young farmer; the latter has taken the state premium.

It is due to Seneca county to say, that I noticed fewer weeds in its fields, and along its roadsides, than in any other district that I visited; this may to some seem a trifling sign, but to me it signifies a wide-spread spirit of enterprise and improvement. The county will be fully described, its various peculiarities elucidated, and its advantages made known when the survey now in progress by Mr. Delafield for the State Society, shall be published. I will not anticipate any of its information, but will merely say that it shows a general state of agriculture that is highly creditable at present, and that is rapidly advancing toward the best standards. Yours truly, John P. Norton.

Profits of Fowls.

E. M. Bradley furnishes the East Bloomfield Farmers' Club with a statement in regard to the profits of eighty fowls for ninety days. In the month of February 1850, he built a poultry-house, 31 feet long and 13 feet wide, attached to a shed on one side and to a barn at one end. The roof was of boards, battened, and it had two windows for the admission of light. On the first of March he put into it eighty fowls of the common kind, mostly one year old. They cost 18¾ cents each. They were fed with corn and oats, and fresh meat, boiled. Gravel, lime, and clean water were furnished constantly, and they were let out of the yard and allowed to roam every afternoon. His account of the expenditures and receipts is as follows:

Lumber and nails for building	$10 90
Labor of building 4½ days, at $1	4 50
Eighty fowls at 18¾ cents each	15 00
Ten bushels corn at 50 cents	5 00
Nine bushels oats at 33⅓ cents	3 00
Making the whole expense	$38 40

In ninety days they furnished 385 dozen and ten eggs, which at ten cents per dozen, were worth $38,58—being a trifle more than the cost of building the house, the fowls and the grain consumed.

Crops in Nova Scotia.—Rev. H. L. Owen, Aylesford Rectory, writes that the crops of last year were more than an average. "Wheat has succeeded well wherever sown, which has not been the case for four years. Potatoes abundant, but I fear are rotting in the cellar. Hay, a good crop, as also Rye and Barley. Turnep culture is becoming extensive, and peat soil is coming into free use."

The Horticultural Department.

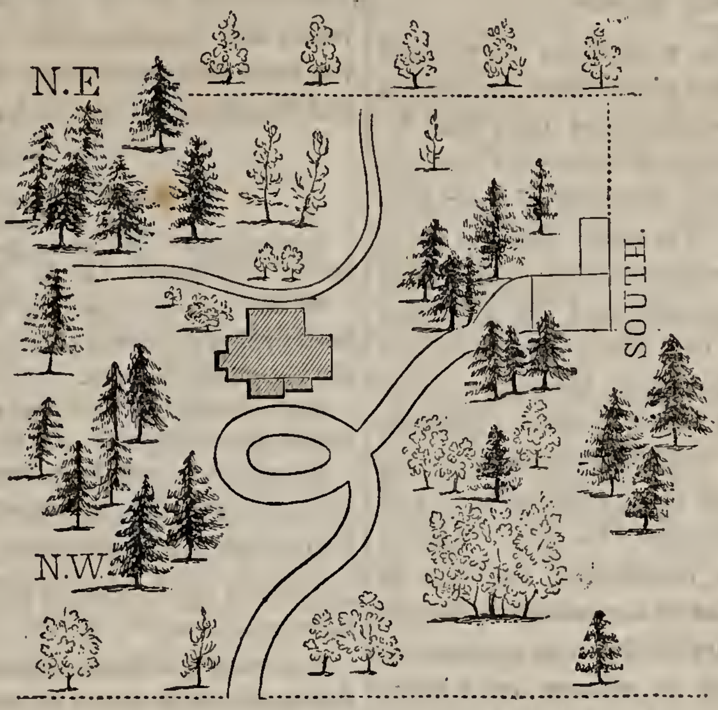
CONDUCTED BY J. J. THOMAS.

Protection from Winter Winds.

Those who do not appreciate the higher reasons for ornamental planting, will doubtless admit its utility, if its pecuniary economy is pointed out. A single item,—the saving of fuel,—is a sufficient reason for the protection of dwellings against the range of cold winds.

Every woodman is familiar with the contrast in apparent temperature between the center of a dense forest, and the face of an open field, during the depth of winter. In the northern states, cultivated land is often frozen to the depth of a foot; woodland soil often not half that depth under similar circumstances. Even some green-house plants will survive the coldest winters if planted under the thick boughs of a forest.

The same kind of protection may be very easily secured by the occupants of every country dwelling, by plantings of evergreens, which will serve wonderfully to mitigate the evils of our long and rigorous winters, which are so generally felt. To come at once to an estimate by bank-note consideration,—we are satisfied by considerable observation, as well as actual experience, that on many bleak situations, at least one half the fuel consumed might be saved by planting twenty-five to fifty good evergreen trees, across the sweep of the prevailing winds. It is a matter of some importance to one who values coin, whether he pays twenty-five or fifty dollars a year for cord-wood; and whether by saving twenty-five dollars a year, he may save the value of a small farm in a life-time.



And if at the same time that this positive tangible profit is secured, a tasteful and attractive appearance is given to a home,—an influence of very great importance in the moral education of a rising family,—the matter is most certainly worthy of attention. To explain more distinctly how a dwelling may be thus protected by tasteful planting, we give the above imperfect plan; more particularly as writers on ornamental planting have apparently lost sight of this important end. The prevailing winds are supposed to be from the south, north-west, and north-east. It will be observed in the plan, that the plantings of evergreen trees predominate at three points, while in other directions the view is left more open. At the same time, art is concealed, and artificial stiffness avoided. The number of trees for these screens may be tripled if necessary.

There are few parts of the country where native evergreens of some kind may not be procured within a days journey. They may be conveyed on sleds with great ease and safety while sleighing lasts, as the large balls or cakes of earth, which all evergreens must carry on their roots for successful removal, are easily loaded on sleds, and the motion is not sufficient to jar off the soil. We have never succeeded better with the white pine and other trees, than by cutting out a circle of unfrozen earth round each tree, under the snow, enough to preserve the tree upright, without staking, and after drawing them home, to leave them standing unplanted till spring. They varied from seven to twelve feet high when removed.

One of the most beautiful and tasteful evergreens, when grown in open ground, is the hemlock. Intermingled with white pine, balsam fir, white spruce, red and white cedar, and other native sorts, occasionally interspersed with such exotics as the Norway, silver fir, &c., in connexion with deciduous trees properly arranged, a plantation presents an exceedingly pleasing and varied appearance.

The Seventeen Year Locust.

A copy of the recent Transactions of the Pennsylvania Horticultural Society (received through the kindness of Dr. Brinckle,) contains a paper from Margaretta Morris, and another from Prof. Goadby, on the injury sustained by the pear tree from the Cicada septendecim or seventeen year locust. It appears that these insects during their long residence below ground in the larval and pupa state, attach themselves to the roots of the tree and injure it by abstracting its sap. A special committee, under the direction of M. Morris, examined the roots of some pear and apple trees, and found great numbers of these insects passing from the larval to the pupa state. They were enclosed in separate earthern cells opening only against a portion of the root. They were then in the sixteenth year of their subterranean life. Trees thus infested by them presented usually a sickly appearance. From the roots of one pear tree nearly five hundred of these insect larvæ were taken, in time to save the life of the tree. As it is well known that these larvæ came from the last brood of perfect insects, we are not to expect that trees planted since the last locust year will be troubled by these root-suckers. We are informed that by cutting down the tree the insects will perish for want of food. The only fact which contravenes this position, is furnished by the statements on record, of swarms of locusts rising from the ground in open fields where oak trees, their favorite places of resort, had been cut down some years previously.

◆

Transplanting Shrubs.

In transplanting shrubs as well as very small trees, a common error is too place them too deep in the earth. This has arisen from the fact, that by receiving more moisture, they often succeed best the first summer, at the expense however of their subsequent healthy growth. It is much better to plant shallow, imparting the necessary moisture by means of a deep, mellow soil beneath, and by mulching above. The material for the latter may be short litter, manure, moss, spent tan, inverted turf or leaves and leaf mould. A raised surface consisting of these materials, to the height of six inches, will occasion no injury whatever for a year or two, and admirably equalize the moisture of the soil. Manure used in this way, operates beneficially not only in preserving the moisture, but in increasing the fertility by the liquid manure carried down in solution by rains, especially if applied in autumn or winter. The contrast between the hard and baked surface too often witnessed when the ground is left bare, and the moist and softened earth beneath a coat of manure or litter, can be only sufficiently understood by actual experiment. Its advantages were strikingly exemplified a year or two since, in planting out a bed of strawberries in the middle of an excessively dry summer. The roots, after being fixed by water in transplanting, were protected from drouth by a coat of manure three inches thick, and although they were watered but once, not a plant perished.

Staking may be in some instances necessary to prevent swaying by the wind, or a one-sided growth where there are imperfect or unequal roots. But usually, if the shrub is furnished with good roots, and if care is taken while the earth is shovelled in, to spread them all out like the arms of an umbrella, they will serve to brace it evenly, and prevent a one-sided growth. Fixing by water, as it is termed, is often sufficient alone, to preclude the necessity of staking. It is most conveniently done by three persons, one spreading out the roots with his fingers, a second sifting in the earth, while the third settles it by pouring water from the rose of a watering-pot. Although soft at first, the soil in a few hours dries and hardens sufficiently to hold firmly the newly set roots. An additional stiffening, if needed, may be given by encircling the stem with a small temporary mound of earth.

In transplanting roses and some other small shrubs, sufficient pruning of the top is rarely given. Climbing roses and those generally which throw up rapid and vigorous shoots will make a better growth by autumn, by cutting down to a few good buds when set out, than by leaving a long portion of stem and branches, which indeed not unfrequently draw so hard upon the roots as to cause the death of the plant. On the other hand we have seen shrubs transplanted in wet weather with entire success, after having grown six inches, by taking up full roots, and drenching the soil well with water, at the same time very freely shortening back the shoots and lopping most of the leaves.

◆

Answers to Inquiries.

Rhubarb.—"Which is the best sort, and which the second and third?" B. W. S.

Of those more commonly known, the best appears to be Downing's Colossal; next, the Victoria; and thirdly the old Giant rhubarb.

Cutting Grafts.—"Are scions just as good cut in winter when frozen?" B. W. S.

Equally so; and they may be frozen and thawed twenty times before spring without injury, provided the proper degree of moisture is preserved.

Seckel Pear on Apple.—"Does the Seckel pear succeed on the apple, and is the fruit larger in size as I have seen stated?" N. W.

It is usually difficult to succeed with the grafts or buds during the early stages of their growth, most of them commonly failing the first year or two; but those which become established grow better, and often last many years. A dwarf tree four feet high, branching from the ground, and six years from the graft, bore about one peck of beautiful fruit the past season, larger in size than common, more pyriform in shape, and not perceptibly inferior in quality.

Root-grafting Apple trees.—"In planting a small nursery, will small pieces of the roots of large apple trees produce trees large enough for market sooner than the seed, and how long ought the pieces to be? Are triple buds as well as single used in budding?" J. A. D., Ravenna, O.

Cutting up the roots of large trees to graft upon has never been much practiced, and is not so certain of producing uniformly fine and thrifty trees, as the vigorous and evenly formed roots of one or two-year seedlings, neither is it so cheap nor economical of labor. But in the absence of seedlings, it may be performed on a limited scale. Younger and thriftier trees would furnish better pieces of roots than older and feebler ones. The length should be about six inches, and when set out, the soil should cover all but the tip of the graft.

Triple buds, when the center is a leaf bud, succeed well in propagating. This is nearly always the case with triple peach buds, and when cut from old or slowly growing trees, they are more likely to withstand the winter than any other. The best buds however are those strong and well formed on the large and vigorous shoots of young trees.

We cannot answer the inquiry about the gnawing of rabits, having had no experience with them.

Training Dwarf Pears.—"Is it proper where a dwarf pear seems inclined to run up too high, to cut the top off?" S. P. M.

Inquiries of this kind are often made, and we therefore subjoin a few figures by way of illustrating the mode of training dwarf pears. They are most usually trained in the form of a pyramid, as shown by figure 1; but some prefer them in the form of dwarf standards, as indicated by fig. 2.

When a pyramid is intended, a mode of pruning must be adopted quite similar in principle to that applied to the trimming of young hedges; that is, to induce a broad and sufficiently thick growth at the bottom by successively cutting back. For example, if we have a young tree of one seasons' growth from the bud, Fig. 3, about two thirds of the top should be cut off as shown by the dotted line, leaving a stump with eight to twelve buds, as in Fig. 4. During the second year, these buds throw out shoots, and form the tree represented by Fig. 5; and if, during the growth of these shoots, the upper one or leader does not keep decidedly ahead of the others, the tips of the side shoots, are to be nipped by midsummer. The same operation is repeated the second year, but at a greater height, and so on till the pyramid in Fig. 1, is formed. This is merely an outline of the work; there are several more minute details observed by skilful pruners, which may be pointed out on a future occasion.

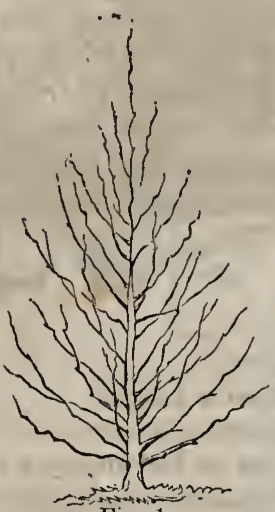


Fig. 1.

If the young tree is left untouched, it will form a head similar to that shown by Fig. 6, resulting in the dwarf standard, Fig. 2; requiring however, in most cases, a slight shortening back, to preserve a good form.

Pyramidal training need not be confined to pears on quince; some of the finest specimens we ever saw were pyramids on pear stocks, this mode of management keeping them within limited bounds, and contributing towards their productiveness.

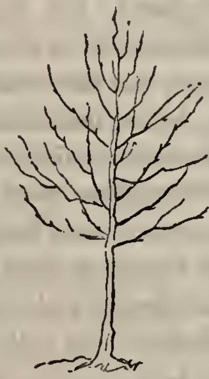


Fig. 2.

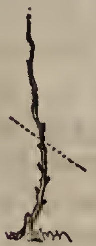


Fig. 3.

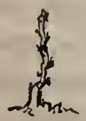


Fig. 4.

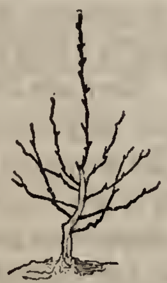


Fig. 5.

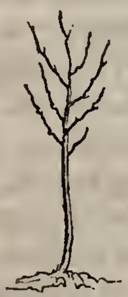


Fig. 6.

It may be well to add that there exists a serious difficulty in the way of the general introduction of dwarf pears. They require richer soil and higher culture than other trees, at the same time that more than nine-tenths of all trees not dwarfs generally planted by our land owners suffer greatly by neglected and deficient culture. Still more so then, would these.

◆

Bitter and useless experience is too little for the mind, but too much for the heart.

The Spanish Chestnut.

The heavy loam of this neighborhood is unsuitable for the chestnut; and I believe the nearest tree that grows wild, is seven or eight miles from this place. When transplanted into common soil, the leaves assume a sickly, whitish cast. I have a Spanish(?) chestnut however, in my garden, which grows in a border of *selected earth* about three feet wide and fifteen inches deep; and it would be very productive, if the *anthers* were not so far diseased as to yield little or no *pollen*. Previous to the present season, it had not produced to my knowledge more than four or five chestnuts in ten years. In the summer of 1849, I ascertained the cause of its barrenness, and thought of applying pollen from the wild kind; but it was not convenient to do so then, and the thing was omitted. In the last summer however, a branch was accidently brought home by one of my family; and though I knew it not till next day when it was withered, I shook it over the lower limbs, and the result has been several dozens of fine chestnuts.

I intend to plant a wild tree in the same border. The theory of this process has been known since the days of Linnæus; but persons who are botanists have been surprised and amused at the result. D. T. *Greatfield, near Aurora, N. Y.*, 11 *mo.* 1, 1850.

◆

Experiment with a Plum tree—Curculio repelled?

William Hooper of Kelloggsville, Cayuga Co., has a plum tree which had regularly dropped its fruit prematurely until the present season, when it bore a fine crop. Its productiveness is ascribed to the following experiment:—Round the tree, at the distance of a foot or more, a small trench was cut last spring, and filled with several quarts of salt. The directions (which were found in a newspaper) mentioned a peck to each tree; but apprehensive that so much might prove injurious, they lessened the quantity. The tree appears quite healthy. D. T. 11 *mo.* 4, 1850.

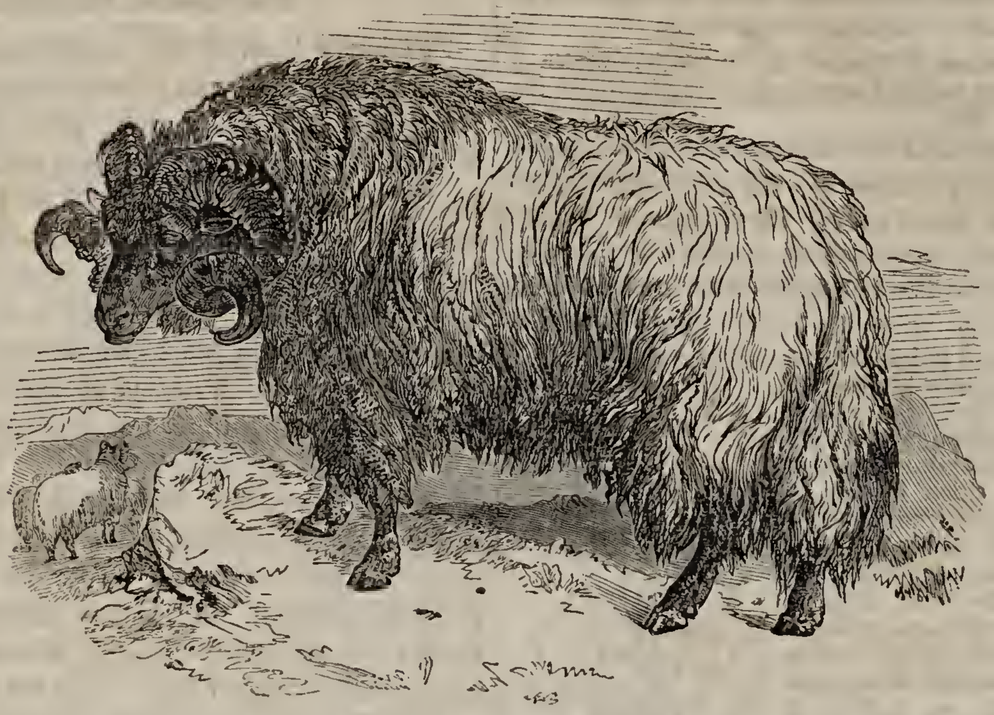
◆

Sharp Frosts in Valleys.

Lawrence Young, Chairman of the State Fruit Committee for Kentucky to the Pomological Congress, states the following fact in illustration of the advantages of planting tender fruit trees on elevated ground instead of in valleys. Lieut. Maury placed a thermometer on a high portion of his orchard grounds, and another at the bottom, thirty-five feet lower. At 1 A. M. he found the thermometer at the bottom at 28°, and being surprised to see that on the hill at 33°, changed their position, but was soon convinced that there was a difference in temperature between the two points of *five degrees*.

◆

English and Scotch Acres.—The English acre contains 4,840 square yards—the Scotch, 6,150. The Scotch acre, therefore, is rather more than one-fourth the largest.



BLACK-FACED SCOTCH SHEEP.

The Farmer's Note-Book.

Black-Faced Sheep of Scotland.

In the pastoral districts of the Highlands of Scotland, the Black-Faced breed of sheep has been kept from time immemorial. The Cheviots have latterly been introduced to some extent, but it is still held, that "in the bleakest and wildest pastures of the mountain ranges, no sheep but the Black-Faced can exist." The breed is uncommonly hardy, and the mutton is remarkable for its fineness and delicacy of flavor. Good wethers average sixteen pounds per quarter. The wool is chiefly used for carpets and the coarser kinds of worsteds. It weighs about four pounds to the fleece. It is thought by some who have seen these sheep in their native country, that they might be advantageously introduced in some of our mountainous districts—as the Allegany range, &c., where they would subsist chiefly on the natural vegetation.

In our last volume, pages 48, 49, we gave some remarks, together with a cut, in regard to the management of sheep in the Highlands, and suggested that some of the practices there pursued might be properly adopted in this country. Our readers may be interested in a few observations in reference to the mode of living, and the character of the Scottish shepherds. Martin remarks—

"The plan on which these men are engaged is admirable, and binds them to their employer's interest, or rather makes their mutual interests the same. For example, if the shepherd be a married man he is allowed a cottage, generally consisting of two apartments, with a little garden or kail-yard and a potato patch. He has also grazing ground for one or even two cows, and the liberty of pasturing on his employer's land from ten to fifty sheep, sometimes more, during summer and winter, with their lambs, to a certain time. In addition to these privileges, he has a certain allowance of oats, barley, and peas, for the sustenance of himself and family. In this lone hut upon the mountain's side, dwells the shepherd, his family, and his dog. During the summer all is pleasant. True, his life is monotonous, but the Scottish shepherd, peasant though he be, is not uneducated, and his own mind affords him resources against *ennui*. Men celebrated in the paths of literature have been for years the tenants of such a cottage, and keepers of another's flock. But winter comes on with its storms and tempests, and then the utmost activity, vigilance and experience of the shepherd are called into full exercise. He is ever anxious, ever on the watch for changes of weather, and his family, nay his faithful dog, participate in his solicitude."

"I know of no scene," says the Shepherd-poet of Ettrick, "so impressive as that of a Shepherd's family, sequestered in a lone glen during the time of a winter storm. They are left to the protection of Heaven alone, and they know and feel it. Before retiring to rest, the shepherd uniformly goes out to examine the state of the weather, and make his report to the little dependant group within. Nothing is to be seen but the conflict of the elements, nor heard but the raving of the storm. Then they all kneel around him while he recommends them to the protection of Heaven; and though their little hymn of praise can scarcely be heard even by themselves, and mixes with the roar of the tempest, they never fail to rise from their devotions with their spirits cheered and their confidence renewed. Often have I been a sharer in such scenes, and never in my youngest years, without having my heart deeply impressed.

THE

PICTORIAL
CULTIVATOR ALMANAC,

FOR

THE UNITED STATES,

FOR THE YEAR

1851.

CALCULATED FOR

BOSTON, NEW-YORK, BALTIMORE, AND CHARLESTON,

AND

ADAPTED FOR GENERAL USE THROUGHOUT THE COUNTRY.

CONTENTS.

ECLIPSES—Rising, Setting, and Phenomena of Planets, Signs, Characters, &c., 2
Notes to the Reader—Equinoxes and Solstices—Table of the Solar System—Tide Table—Apogee and Perigee of the Sun—Equation of Time, &c., &c., 3
Calendar for January—To Save Fuel—Keeping Accounts, 4
Calendar for February—Benefit of Chopping Hay—Economy of Time, 5
Calendar for March—Sugar Boiling Apparatus, 6
Calendar for April—Seed-sowers or Drills—Interesting Experiments, 7
Calendar for May—Dog-Power for Churning—Harrowing Wheat in Spring, 8
Calendar for June—The Horse Rake—Grain-binder's Wheel Rake, 9
Calendar for July—Shocking Wheat, 10
Calendar for August—Dairy Steamers, &c., 11
Calendar for September—Butter Making, 12
Calendar for October—Cooking Food for Animals—Feeding Cattle in Winter, 13
Calendar for November—Fanning Mills—Corn-shellers—Enriching Farming—Milking, 14
Calendar for December—Seasonable Hints—The Cultivator, 15
Culture of Fruit—Economy of Fruit—Raising Fruit for Market, 16
The Circle of Fruits—Raising Quinces—Raspberries—Hardy Grapes—Dwarf Pears, 17
Design for a Country School House—Culture of Asparagus, Early Cucumbers, Lettuce, Potatoes, Melons, Turneps, &c. 18
Management of Poultry—Hints for Nursing the Sick—False Economy—Colic in Horses, 19
Pork Making and Porkers—Root Crops and Weeds—Potatoes—Gates, 20
Construction of Wire Fences—Good Rules and Good Management—Experiment with Ashes—Advantages of Draining, 21
Cheviot Sheep—Two Story Sheep Barn—Shelter for, and Age of Sheep, 22
Shade Trees—Cooking for the Sick—To Destroy Canada Thistles, 23
National Gardens at Kew—Time Required for Cooking—Recipes for Cooking, Preserves, Jellies, &c., 24
Alderney Cattle—Milch Cows—Relieving Choked Cattle—To Promote the Health of Stock, 25
Morgan Horses—Horses of the Ancients—Heaves, 26
Horse-Powers—Kendall's Cheese Press—Simple Remedies—Remedies for Poisons, 27
Design for a Farm House—How to Grow Rich, 28
Design for a Country House—Corn for Fodder, 29
Benefits of Agricultural Papers—Tables for Planting, Weights of Earths, Metals, &c., 30
Emery's latest Improved Railroad Horse-Power, 31
Albany Agricultural Works, Warehouse and Seed Store, 32

ILLUSTRATIONS.

Air-tight Stove, 4
Straw-Cutter, 5
Sugar-boiling Apparatus, 6
Seed Planter, 7
Dog Power, 8
Horse Rake, 9
Grain-binder's Wheel-rake, 9
Shocking Wheat, 10
Dairy Steamer, 11
Thermometer Churn, 12
Mott's Ag. Furnaces, 13
Fan-mill and Cornsheller, 14
Fruit Gathering, 16
Strawberries, Raspberries, &c., 17
Design for a School-house, 18
Group of Poultry, 19
Suffolk and Landpike Pigs, 20
Wire Fences, 21
Sheep and Sheep Barn, 22
The Magnolia, 23
Kew Gardens, 24
Alderney Cow, 25
Morgan Mare, 26
Kendall's Cheese Press, 27
Horse-Power and Thresher, 27
Bracketted Farm-house, 28
Ornamental Farm-house, 29

ALBANY, N. Y.
PUBLISHED BY LUTHER TUCKER,
AT THE OFFICE OF
The Cultivator and The Horticulturist.

ECLIPSES IN THE YEAR 1851.

There will be two eclipses of the Sun and two of the Moon, this year.

I. Jan. 17, Moon eclipsed at the time of Full Moon, in the morning, in the United States, except the eastern part of Maine, where it will be afternoon. Invisible here, but will be seen in the opposite regions of the globe. Magnitude, 5.58 digits on the Moon's northern limb.

II. February 1, Sun eclipsed at the time of new Moon in the morning, but will be in the evening of Jan. 31, in the states and territories west of the Mississippi river. Invisible in America. The Sun may be seen more or less eclipsed on the southern limb at Australia, the Cape of Good Hope, and the southern part of Madagascar, and on the northern limb, at New-Zealand. This eclipse will be central and annular on the meridian, in longitude 98° 22″ E. from Greenwich, and latitude 58° 23″ S.

III. July 12, evening, and July 13, morning, Moon eclipsed; visible.

Principal Cities.	Beginning.			Middle.			End.		
	D.	H.	M.	D.	H.	M.	D.	H.	M.
Eastport,	13	1	22 m.	13	2	53 m	13	4	24
Boston,	13	1	6 m.	13	2	37 m.	13	4	8
New-York,	13	0	54 m.	13	2	25 m.	13	3	56
Philadelphia,	13	0	49 m.	13	2	20 m.	13	3	51
Baltimore,	13	0	43 m.	13	2	14 m.	13	3	45
Washington,	13	0	42 m.	12	2	13 m.	13	3	44
Richmond,	13	0	40 m.	13	2	11 m.	13	3	42
Rochester,	13	0	39 m.	13	2	10 m.	13	3	41
Raleigh,	13	0	35 m.	13	2	6 m.	13	3	37
Charleston, Pittsburgh,	13	0	30 m.	13	2	1 m.	13	3	32
Cleveland,	13	0	24 m.	13	1	55 m.	13	3	26
Detroit,	13	0	18 m.	13	1	49 m.	13	3	20
Milledgeville,	13	0	17 m.	13	1	48 m.	13	3	19
Lexington,	13	0	13 m.	13	1	44 m.	13	3	15
Cincinnati,	13	0	12 m.	13	1	43 m.	13	3	14
Indianapolis,	13	0	6 m.	13	1	37 m.	13	3	8
Nashville,	13	0	3 m.	13	1	34 m.	13	3	5
Chicago,	12	11	59 ev	13	1	30 m.	13	3	1
Mobile,	12	11	57 ev	13	1	28 m.	13	2	59
St. Louis,	12	11	52 ev	13	1	23 m.	13	2	54
New-Orleans,	12	11	50 ev	13	1	21 m.	13	2	52
Austin,	12	11	19 ev	13	0	50 m.	13	2	21
San Francisco,	12	9	43 ev	12	11	14 ev	13	0	45

Magnitude, 8.47 digits on the Moon's southern limb.

IV. July 28, morning, Sun eclipsed; visible more or less throughout the U. States, with the exception of the southern part of Florida, on the Sun's northern limb.

Cities in the order of Latitude.	Beginning.	Greatest Eclipse.	End.	Duration.	Magnitude.
	H. M.	H. M.	H. M.	H. M.	Digs.
Eastport,	8 7	9 3	10 1	1 54	4.53
Montpelier,	7 41	8 35	9 31	1 50	4.46
Concord,	7 46	8 38	9 32	1 46	4.00
Rochester,	7 16	8 7	9 0	1 44	4.53
Milwaukie,	6 30	7 21	8 14	1 44	5.23
Buffalo,	7 10	8 1	8 54	1 44	4·47
Albany,	7 34	8 26	9 20	1 46	4·02
Detroit,	6 51	7 41	8 33	1 42	4 66
Boston,	7 49	8 40	9 34	1 45	3·79
Providence,	7 48	8 37	9 29	1 41	3·52
Chicago,	6 29	7 18	8 10	1 41	4·81
Iowa city,	6 12	7 0	7 51	1 39	5·07
New-Haven,	7 39	8 27	9 18	1 39	3·54
New-York,	7 34	8 21	9 12	1 38	3 42
Pittsburgh,	7 4	7 51	8 42	1 38	3.79
Philadelphia,	7 29	8 15	9 4	1 35	3.32
Indianapolis,	6 37	7 24	8 14	1 37	4·28
Baltimore,	7 23	8 7	8 53	1 30	3 12
Cincinnati,	6·45	7 30	8 18	1 33	3 69
Washington,	7 21	8 5	8 51	1 30	3·01
St. Louis,	6 21	7 6	7 54	1 33	4.03
Lexington,	6 46	7 29	8 16	1 30	3·39
Richmond,	7 20	8 1	8 45	1 25	2.57
Nashville,	6 36	7 16	7 59	1 23	2.95
Raleigh,	7 16	7 52	8 32	1 16	2.10
Little Rock,	6 10	6 49	7 31	1 21	3.02
Milledgeville,	6 56	7 28	8 2	1 6	1.65
Charleston,	7 16	7 42	8 10	0 54	1.05
Mobile,	6 36	7 2	7 31	0 55	1.24
Austin,	5 49	6 21	6 55	1 6	2.20
New-Orleans,	6 28	6 53	7 21	0 53	1.06
St. Augustine,	7 3	7 22	7 43	0 40	0.67

At Astoria in Oregon, this eclipse will be chiefly visible. The Sun will rise there at 4h. 40m. with 7.01 digits eclipsed, and at 4h. 58m. it will be 9.18 digits eclipsed. The eclipse will end at 5h. 49m. At San Francisco, the Sun will rise at 5h. 2m. with an eclipse of 6.65 digits diminishing, which will end at 5h. 43m. This eclipse will be more or less visible throughout Europe, and in the northern part of Africa. It will be central and total on the meridian in longitude 33 deg. 43 m. west from Greenwich, and latitude 69 deg. 54 min. north.

◆

RISING AND SETTING OF PLANETS, &c.

The reader should understand that these are not materially affected by the *longitude* of a place: and also that when the hour is less than 6, it is in the morning; and when greater than 6, it is in the evening.

Date.	Planet.	Boston.	Washington.	Charleston.
		H. M.	H. M.	H. M.
Jan. 14,	Venus rises,	4 41	4 34	4 22
" 21,	"	4 23	4 15	4 3
Feb. 5,	Saturn sets,	10 20	10 18	10 15
" 12,	Venus rises,	4 13	4 5	3 52
" 20,	Jupiter rises,	9 49	9 46	9 41
" 28,	"	9 15	9 12	9 8
Mar. 4,	"	8 58	8 55	8 50
" 11.	Venus rises,	4 14	4 6	3 54
" 19.	"	4 12	4 5	3 54
" 27,	"	4 8	4 2	3 53
April 9,	"	3 58	3 54	3 48
" 21.	"	3 43	3 41	3 39
May 3.	"	3 32	3 32	3 33
" 14,	"	3 19	3 21	3 25
" 28,	"	3 4	3 9	3 16
June 4,	"	2 58	3 4	3 14
" 14,	"	2 51	2 59	3 12
" 25,	"	2 49	2 59	3 14
July 5,	"	2 52	3 3	3 19
" 16.	"	3 3	3 14	3 31
" 18,	Jupiter sets,	10 58	11 0	11 3
Aug. 2,	"	10 3	10 5	10 8
" 7,	Saturn rises,	10 25	10 30	10 37
" 8.	Jupiter sets,	9 41	9 43	9 47
" 22,	Seven Stars rise,	9 58	10 9	10 27
Sept. 5,	"	9 3	9 14	9 32
" 18,	"	8 11	8 23	8 40
" 25,	"	7 44	7 55	8 13
Oct. 6,	Mars rises,	11 2	11 12	11 29
" 14,	"	10 50	11 0	11 17
" 25,	"	10 32	10 42	10 58
Nov. 6,	"	10 9	10 19	10 34
" 14,	"	9 51	10 0	10 15
" 27,	"	9 17	9 26	9 40
Dec. 6,	"	8 48	8 57	9 11
" 18,	"	8 1	8 10	8 25

PHENOMENA OF THE PLANETS FOR 1851.

Jan. 4, ♅ stat.; 5, ♀ stat. □☉♄; 6, ☿'s gr. elong.; 12, □☉♃, ☿ stat.; 16, □☉♅; 20, ☉ enters ♒; 22, inf. ☌☉☿. Feb. 2, ☿ stat.; 7, ♃ stat.; 15, ☿'s gr. elong.; 19, ☉ enters ♓; 25, ♀'s gr. elong. March 20, ☉ enters ♈. April 1, sup. ☌☉☿; 8, ☍☉♃; 14, ☌☉♄; 20, ☉ enters ♉, ☌☉♅; 28, ☿'s gr. elong. May 9, ☿ stat.; 20, inf. ☌☉☿; 21, ☉ enters ♊. June 1, ☿ stat.; 10, ♃ stat.; 15, ☿'s gr. elong.; 21, ☉ enters ♋. July 6, □☉♃; 15, sup. ☌☉☿; 23, ☉ enters ♌; □☉♄, □☉♅; 28, ☉ eclipsed, vis. Aug. 10, ♅ stat.; 17, ♄ stat.; 23, ☉ enters ♍; 26, ☿'s gr. elong. Sept. 8, ☿ stat.; 22, inf. ☌☉☿; 23, enters ♎; 30, sup. ☌☉♀, ☿ stationary. Oct. 7, ☿'s gr. elong.; 23, □☉♂, ☉ enters ♏; 24, ☍☉♄; 26, ☍☉♅; 27; ☌☉♃. Nov. 7, sup. ☌☉☿; 22, ☉ enters ♐. Dec. 16, ♂ stat.; 20, ☿'s gr. elong.; 22, ☉ enters ♑; 27, ☿ stat.; 31, ♄ stationary.

◆

SIGNS OF THE ZODIAC.

♈ Aries; ♉ Taurus; ♊ Gemini; ♋ Cancer; ♌ Leo; ♍ Virgo; ♎ Libra; ♏ Scorpio; ♐ Sagittarius; ♑ Capricorn; ♒ Aquarius; ♓ Pisces.

◆

CHARACTERS.

☼☉ Sun; ☽ Moon; ☿ Mercury; ♀ Venus; ⊕ Earh; ♂ Mars; ♃ Jupiter; ♄ Saturn; ♅ Herschel.

EQUINOXES AND SOLSTICES FOR 1851.

EQUINOXES AND SOLSTICES.		LONDON.	BOSTON.	WASHINGTON.	CINCINNATI.	SAN FRANCISCO.
		D. H. M.	D. H. M.	D. H. M.	D. H. M.	D. H M.
Vernal Equinox,	March,....	21 4 55 mo	21 0 11 mo	20 11 47 ev	20 11 17 ev	20 8 47 ev
Summer Solstice,	June, ...	22 1 41 mo	21 8 57 ev	21 8 33 ev	21 8 3 ev	21 5 33 ev
Autumnal Equinox,	Sept.,.....	23 3 51 ev	23 11 7 mo	23 10 43 mo	23 10 13 mo	23 7 43 mo
Winter Solstice,	Dec., ...	22 9 29 mo	22 4 45 mo	22 4 21 mo	22 3 51 mo	22 1 21 mo

When it is noon at London, it is 6 h. 52 m. in the morning at Washington; and when it is noon at Washington, it is 5 h. 8 m. in the evening at London.

TABLE OF THE SOLAR SYSTEM.

NAME.	Mean diameter in Eng. mi's	Mean distance from the Sun.	Time of revolution round the Sun.	Light & heat, earth being 1.
The Sun,..	883,246	....	D. H. M. S.	
Mercury, ..	3,224	37,000,000	87 23 15 43	6.67
Venus, ...	7,687	68,000,000	224 16 49 10	1.91
The Earth,	7,912	95,000,000	365 6 9 12	1.
The Moon,	2,180	95,000,000	365 6 9 12	1.
Mars, ...	4,189	144,000,000	686 23 30 35	0.43
Vesta,.....	238	224,340,600	1,325 11 38 24	....
Iris, ...	unknown.	226,000,000	1,327 23 22 41	....
Hebe, ...	"	230,000,000	1,375 nearly,	....
Flora, ...	"	240,000,000	1,469 18 37 19	....
Astræ, ...	"	246,000,000	1,512 nearly.	0.16
Juno, ...	1,425	253,598,700	1,593 1 36 28	....
Ceres, ...	160	263,236,450	1,684 17 38 24	....
Pallas,* ...	110	265,000,000	1,686 7 19 12	....
Jupiter, ...	89,170	490,000,000	4,332 14 27 10	0.037
Saturn,....	79,042	900,000,000	10,759 1 51 11	0.011
Uranus, ...	35,112	1,800,000,000	30,686 19 41 32	0.003
Neptune, ..	35,000	2,850,000,000	60,128 3 20 02	0.001

* A ninth asteroid, named Metis, and also a tenth not yet named, have been discovered since the beginning of 1848, between Mars and Jupiter; but as the sizes, distances, etc., are yet unknown, they have not been added to the table.

NOTES TO THE READER.

The astromical calculations for this Almanac, in equal or clock time, were made by David Young, of Hanover Neck, New-Jersey, and the calendar page is adapted for use in every part of the United States. It is based on the fact, that in the same *Latitude, that is, on a line running due east and west, the Sun and Moon rise and set at the same moment by the clock or almanac,* not only through the United States, but around the world—the variations being so small as to be of no importance for ordinary purposes. Thus, if on any day the Sun rises at Boston at 5 minutes past 6, it rises at 5 minutes past 6 on the same line of latitude westward throughout the states of Massachusetts, New-York, Michigan, Iowa, and Oregon.

Hence, a Calendar adapted to Boston for New England, is equally adapted, as to the rising and setting of the Sun and Moon, for use in Northern New-York and Michigan; a Calendar for New-York city is adapted for use in the states of Pennsylvania, Ohio, Indiana, and Illinois; a Calendar for Baltimore is adapted for Virginia, Kentucky, and Missouri; and a Calendar for Charleston will answer for North Carolina, Tennessee, Georgia, Alabama, and Louisiana. Wherever the reader is, look for the state at the top of the Calendar page, and underneath are the rising and setting of the Sun and Moon sufficiently accurate for all practical purposes.

The *changes, fulls, and quarters of the Moon,* however, are governed by another principle, and are essentially the same for all places on the same *Longitude;* that is, on any line extending due north and south. Thus, the Moon's phases for Charleston, suit Pittsburgh, etc. Any phasis takes place at the same instant of absolute time; but the local time is earlier at the westward, and later at the eastward, at the rate of *four minut's for each degrees of Longitude;* or at the rate of *one minute* for every 12 miles 273 rods in the latitude of Boston; 13 miles and 60 rods in the latitude of New-York city; 13 miles 143 rods in the latitude of Baltimore; and 14 miles 199 rods in the latitude of Charleston.

TIDE TABLE.

CHIEFLY FROM THE TABLE IN BOWDITCH'S NAVIGATOR.

The Calendar pages exhibit the time of high water at New-York, Boston, and Charleston.

To find the time of high water at any of the following places, add to or subtract from the time of high water at New-York, as follows: (A signifies that the annexed quantity of time is to be added, S subtracted)—For

		H.M.			H.M.
Amelia Harbor,.........	S	0 24	Machias, ...	A	2 6
Ann, Cape,.............	A	2 36	Marblehead,............	A	2 30
Annapolis, ...	A	2 6	May, Cape, ...	S	0 9
Anticosti Island, west end.	S	5 24	Mount Desert, ...	A	2 6
St. Augustine,...........	S	1 24	New-Bedford,...........	S	1 17
Block Island,...........	S	1 17	Newburyport, ...	A	2 21
Boston, ...	A	2 36	New-Haven,............	A	1 22
Canso, Cape, ...	S	0 24	Norwich Landing, ...	A	0 45
Charles, Cape, ...	S	1 9	Passamaquoddy River, ..	A	2 36
Charleston Bar,..........	S	1 39	Penobscot River,........	A	1 51
Cod, Cape,.............	A	2 36	Philadelphia, ...	A	5 0
Delaware River, ent.....	A	0 6	Plymouth, ...	A	2 36
Fairfield, ...	A	2 0	Portland, ...	A	1 51
Fear, Cape,.............	S	0 54	Port Royal Island,.......	S	0 39
Florida Keys,...........	S	0 4	Portsmouth, ...	A	2 21
Gay Head,.............	S	1 17	Quebec, Canada,........	S	0 5
George's River,.........	A	1 51	Rhode Island, ...	S	2 9
Georgetown Bar,........	S	1 54	Roman, Cape,...........	S	9 54
Goldsborough, ...	A	2 6	Sable, Cape,............	S	0 54
Guilford, ...	A	1 30	Salem, ...	A	2 36
Halifax, N. S., ...	S	1 24	Sandy Hook, N. J.,......	S	2 17
Hartford, ...	S	5 40	Saybrook, ...	A	0 15
Hatteras, Cape,.........	A	0 6	St. Johns, N. F., ...	S	2 54
Henlopen, Cape, ...	S	0 9	St. Simon's Bar, ...	S	1 24
Henry, Cape, ...	S	1 14	Sunbury,................	A	0 36
Kennebec, ...	A	1 54	Townsend, ...	A	1 51
Lookout, Cape, ...	A	0 6			

APOGEE AND PERIGEE OF THE SUN.

The Sun is in			Miles.
Perigee	December 31, 1850,	distance from the Earth,...	93,582,000
Apogee	July 1, 1851,	" " " ...	96,771,000
Perigee	January 2, 1852,	" " " ...	93,575,000

The perigee does not occur in 1851, but occurs twice in 1852.

EQUATION OF TIME.

Almanacs often contain the expresssion, "*sun fast,*" and "*sun slow.*" They refer to the difference of time as shown by the sun, and as shown by a good clock or watch. Time as marked by the *former*, is called "*apparent,*" and as marked by the *latter*, "*mean time.*" A good *sundial* will always tell the *former;* a *watch* or *clock*, the *latter*. The calculations of most almanacs are given in *mean* or clock time.

CHRONOLOGICAL CYCLES.

Dominical Letter, E; Golden Number, or Lunar Cycle, 9; Epact, 28; Solar Cycle, 12; Roman Indiction, 9; Julian Period, 6564.

ASPECTS AND NODES.

☌ Conjunction; ✱ Sextile, 60 degrees; □ Quartile, 90 degrees; △ Trine, 120 degrees; Vc. Quincunx, 150 degrees; ☍ Opposition, 180 degrees; ☊ Ascending Node; ☋ Descending Node.

LEAP YEAR.

Every year is *leap-year* the number of which can be divided by 4, and not by 100; or which can be divided by 400.

Anger is like rain, which breaks itself upon that on which it falls.

1st MONTH. JANUARY, 1851. 31 Days.

MOON'S PHASES.	BOSTON.	NEW-YORK.	BALTIMORE.	CHARLESTON.	SUN ON MERIDIAN.
	D. H. M.	H. M.	H. M.	H. M.	D. H. M. S.
New Moon, ...	2 6 0 mo.	5 48 mo.	5 37 mo.	5 24 mo.	1 ev. 3 50
First Quarter,.	10 11 37 mo.	11 25 mo.	11 14 mo.	11 1 mo.	9 0 7 25
Full Moon,....	17 11 58 mo.	11 46 mo.	11 35 mo.	11 22 mo.	17 0 10 23
Third Quarter,	24 3 33 mo.	3 21 mo.	3 10 mo.	2 57 mo.	25 0 12 37

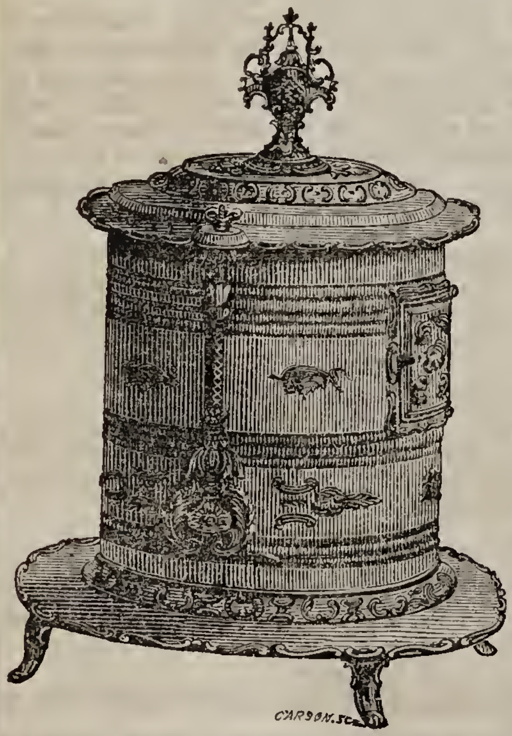
In this month, the principal work requiring the farmer's attention, is, 1 The management and care of domestic animals—2. Threshing and securing grain from rats—3. Pruning and care of fruit trees—4. Repairing tools, and other in-door work.

Day of Month.	Day of Week.	Sun's declin'n S.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon rise s.	H. W. Bos'n.	Sun rises.	Sun sets.	Moon rises.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon rises.	Sun rises.	Sun sets.	Moon rises.	H. W. Ch'ton
		° ′ ″	♑	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Wednesday.	23 1 14	♑	7 32	4 36	6 38	11 6	7 27	4 41	6 33	8 6	7 23	4 45	6 30	7 5	5 3	6 14	7 6
2	Thursday ..	22 56 4	♑	7 32	4 36	sets	11 47	7 27	4 42	sets	8 47	7 23	4 46	sets	7 5	5 4	sets	7 47
3	Friday	22 50 26	♒	7 32	4 37	5 55	morn	7 27	4 43	6 1	9 27	7 23	4 47	6 5	7 5	5 4	6 21	8 27
4	Saturday...	22 44 21	♒	7 32	4 38	6 51	0 27	7 27	4 44	6 56	10 3	7 23	4 48	7 0	7 5	5 5	7 15	9 3
5	E	22 37 49	♓	7 32	4 39	7 49	1 3	7 27	4 45	7 53	10 35	7 23	4 49	7 56	7 5	5 6	8 8	9 35
6	Monday	22 30 51	♓	7 32	4 40	8 47	1 35	7 27	4 46	8 50	11 10	7 23	4 49	8 53	7 6	5 7	9 2	10 10
7	Tuesday ...	22 23 25	♓	7 32	4 41	9 45	2 10	7 27	4 47	9 47	11 46	7 23	4 50	9 49	7 6	5 8	9 56	10 46
8	Wednesday.	22 15 33	♈	7 32	4 42	10 44	2 46	7 27	4 48	10 45	morn	7 23	4 51	10 46	7 6	5 9	10 49	11 22
9	Thursday ..	22 7 15	♈	7 32	4 43	11 43	3 22	7 27	4 49	11 44	0 22	7 23	4 52	11 44	7 6	5 9	11 44	morn
10	Friday	21 58 31	♉	7 31	4 44	morn	4 1	7 26	4 50	morn	1 1	7 22	4 53	morn	7 6	5 10	morn	0 1
11	Saturday...	21 49 21	♉	7 31	4 46	0 44	4 44	7 26	4 51	0 44	1 44	7 22	4 54	0 43	7 5	5 11	0 40	0 44
12	E	21 39 46	♉	7 31	4 47	1 47	5 37	7 26	4 52	1 46	2 37	7 22	4 55	1 44	7 5	5 12	1 38	1 37
13	Monday	21 29 46	♉	7 31	4 48	2 53	6 48	7 25	4 53	2 50	3 48	7 22	4 56	2 48	7 5	5 13	2 39	2 48
14	Tuesday ...	21 19 20	♊	7 30	4 49	4 0	7 57	7 25	4 54	3 57	4 57	7 21	4 58	3 54	7 5	5 14	3 42	3 57
15	Wednesday.	21 8 30	♊	7 30	4 50	5 8	9 6	7 25	4 55	5 4	6 6	7 21	4 59	5 1	7 5	5 15	4 46	5 6
16	Thursday ..	20 57 16	♋	7 29	4 51	6 14	10 4	7 24	4 56	6 9	7 4	7 21	5 0	6 6	7 5	5 16	5 50	6 4
17	Friday	20 45 38	♋	7 29	4 52	rises	10 55	7 24	4 57	rises	7 55	7 20	5 1	rises	7 4	5 17	rises	6 55
18	Saturday...	20 33 37	♌	7 28	4 54	6 23	11 45	7 23	4 58	6 27	8 45	7 20	5 2	6 31	7 4	5 17	6 45	7 45
19	E	20 21 12	♌	7 28	4 55	7 38	ev 34	7 23	5 0	7 42	9 34	7 19	5 3	7 45	7 4	5 18	7 55	8 34
20	Monday	20 8 24	♍	7 27	4 56	8 53	1 22	7 22	5 1	8 55	10 22	7 19	5 4	8 57	7 4	5 19	9 4	9 22
21	Tuesday ...	19 55 13	♍	7 26	4 57	10 6	2 9	7 22	5 2	10 7	11 9	7 18	5 5	10 8	7 3	5 20	10 11	10 9
22	Wednesday.	19 41 41	♎	7 26	4 59	11 16	2 56	7 21	5 3	11 16	11 56	7 18	5 6	11 16	7 3	5 21	11 15	10 56
23	Thursday ..	19 27 46	♎	7 25	5 0	morn	3 44	7 20	5 4	morn	ev 44	7 17	5 8	morn	7 2	5 22	morn	11 44
24	Friday	19 13 30	♏	7 24	5 1	0 24	4 32	7 20	5 6	0 23	1 32	7 16	5 9	0 22	7 2	5 23	0 17	ev 32
25	Saturday...	18 58 52	♏	7 23	5 2	1 30	5 28	7 19	5 7	1 28	2 28	7 16	5 10	1 26	7 1	5 24	1 18	1 28
26	E	18 43 54	♐	7 22	5 4	2 34	6 34	7 18	5 8	2 31	3 34	7 15	5 11	2 28	7 1	5 25	2 17	2 34
27	Monday	18 28 35	♐	7 21	5 5	3 35	7 44	7 17	5 9	3 31	4 44	7 14	5 12	3 28	7 0	5 26	3 14	3 44
28	Tuesday ...	18 12 56	♐	7 21	5 6	4 32	9 0	7 16	5 10	4 28	6 00	7 13	5 14	4 25	7 0	5 27	4 9	5 0
29	Wednesday.	17 56 57	♑	7 20	5 8	5 26	10 5	7 16	5 12	5 21	7 05	7 13	5 15	5 18	6 59	5 28	5 1	6 5
30	Thursday ..	17 40 40	♑	7 19	5 9	6 14	10 55	7 15	5 13	6 9	7 55	7 12	5 16	6 6	6 59	5 29	5 50	6 55
31	Friday.....	17 24 3	♒	7 18	5 10	6 57	11 36	7 14	5 14	6 52	8 36	7 11	5 17	6 49	6 58	5 30	6 34	7 36

TO SAVE FUEL.

After trying many ways of heating rooms, a sheet iron stove has been found most saving of wood. But such a stove, unless perpetually regulated, is very flashy—too hot or too cold. Race's Self-Regulating Stove, removes all difficulties—we have found it to heat a room from zero to mild summer heat in five minutes, and then to maintain this temperature evenly all day. It requires only about half the fuel needed for a good hot-air furnace with eight drums. With coarse wood, it will keep a slow fire all night. By turning the register, which is done in one second, the heat may be kept steadily at any desired temperature. When the fire burns too fast, its heat shuts down the valve; if too slow, up goes the valve and lets in a whiff of wind, and it blazes afresh.

Two precautions are needed—one to reverse the pipe joints, to prevent the dropping of the liquid soot; and the other, not to put in at once so much wood as to prevent a faint draught at the valve, which will prevent puffs and explosions.



KEEPING AND SETTLING ACCOUNTS.

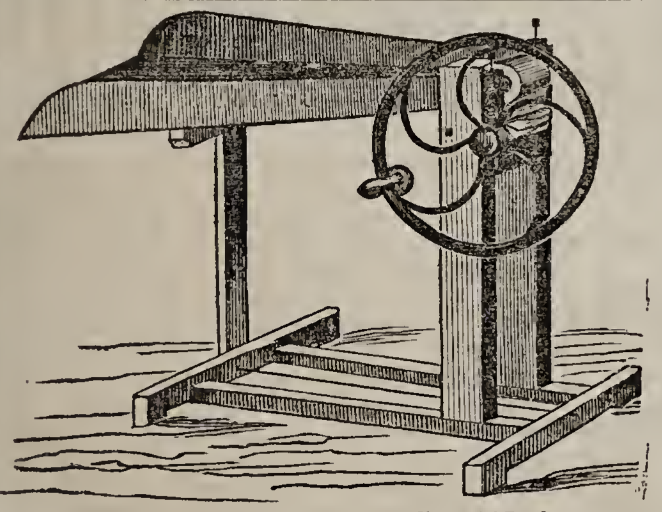
We have, for a long series of years, watched pretty narrowly the habits of many farmers, and we have found that those who keep constant and accurate accounts, and settle regularly and punctually with their neighbors, also keep all their farm operations in neat and regular order. On the other hand, those who are careless and slack in settling or paying their debts, also keep a slip-shod account with every part of their farms—no system, no clock-work regularity is maintained in their yearly routine of work. They also waste time in hunting for displaced tools, waste money by doing work out of season, and waste happiness by fretting over the disorder and confusion which their own hands have created. To avoid these evils, begin the year anew, by settling in some shape or other with every debtor and creditor—and keep a strict and careful account with every body, but more especially with yourselves—and lay out all work with regularity, and execute it with energy.

2d Month. **FEBRUARY, 1851.** **28 Days.**

MOON'S PHASES.	BOSTON.	NEW-YORK.	BALTIMORE.	CHARLESTON.	SUN ON MERIDIAN
	D. H. M.	H. M.	H. M.	H. M.	D. H. M. S.
New Moon, ...	1 1 18 mo.	1 6 mo.	0 55 mo.	0 42 mo.	1 0 13 53
First Quarter, .	9 4 12 mo.	4 0 mo.	3 49 mo.	3 36 mo.	9 0 14 31
Full Moon, ...	15 10 44 ev.	10 32 ev.	10 21 ev.	10 8 ev.	17 0 14 18
Third Quarter,	22 4 54 ev.	4 42 ev.	4 31 ev.	4 18 ev.	25 0 13 20

If not already done, cut grafts, prune grapes, and tread snow round trees. Examine apples in cellars, and select and use those beginning to decay. See to vegetables in cellars, that they are neither getting dry, nor decaying from too much moisture.

Day of Month.	Day of Week.	Sun's declina'n S.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon sets.	H. W. Bost'n	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ' "	♒	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Saturday..	17 7 8	♒	7 17	5 12	sets	morn	7 13	5 15	sets	9 13	7 10	5 18	sets	6 57	5 31	sets	8 13
2	**E**	16 49 55	♓	7 16	5 13	6 39	0 13	7 12	5 17	6 43	9 49	7 9	5 19	6 46	6 57	5 32	6 56	8 49
3	Monday ...	16 32 24	♓	7 15	5 14	7 37	0 49	7 11	5 18	7 40	10 19	7 8	5 21	7 42	6 56	5 33	7 50	9 19
4	Tuesday ..	16 14 36	♈	7 13	5 16	8 36	1 19	7 10	5 19	8 37	10 50	7 7	5 22	8 39	6 55	5 34	8 43	9 50
5	Wednesday	15 56 32	♈	7 12	5 17	9 34	1 50	7 9	5 20	9 35	11 22	7 6	5 23	9 36	6 54	5 35	9 37	10 22
6	Thursday .	15 38 10	♈	7 11	5 18	10 34	2 22	7 8	5 22	10 34	11 54	7 5	5 24	10 34	6 54	5 36	10 32	10 54
7	Friday....	15 19 33	♉	7 10	5 20	11 35	2 54	7 7	5 23	11 34	morn	7 4	5 25	11 33	6 53	5 36	11 27	11 27
8	Saturday..	15 0 41	♉	7 9	5 21	morn	3 27	7 5	5 24	morn	0 27	7 3	5 27	morn	6 52	5 37	morn	morn
9	**E**	14 41 34	♊	7 7	5 22	0 38	4 5	7 4	5 25	0 35	1 5	7 2	5 28	0 34	6 51	5 38	0 25	0 5
10	Monday ...	14 22 11	♊	7 6	5 23	1 42	4 50	7 3	5 27	1 39	1 50	7 1	5 29	1 36	6 50	5 39	1 25	0 50
11	Tuesday ..	14 2 35	♋	7 5	5 25	2 47	5 49	7 2	5 28	2 44	2 49	7 0	5 30	2 41	6 49	5 40	2 27	1 49
12	Wednesday	13 42 44	♋	7 4	5 26	3 52	7 5	7 1	5 29	3 48	4 5	6 58	5 31	3 44	6 48	5 41	3 29	3 5
13	Thursday .	13 22 41	♌	7 2	5 27	4 54	8 26	6 59	5 30	4 50	5 26	6 57	5 32	4 46	6 48	5 42	4 31	4 26
14	Friday....	13 2 24	♌	7 1	5 29	5 50	9 42	6 58	5 32	5 46	6 42	6 56	5 34	5 43	6 47	5 43	5 29	5 42
15	Saturday..	12 41 55		7 0	5 30	rises	10 41	6 57	5 33	rises	7 41	6 55	5 35	rises	6 46	5 44	rises	6 41
16	**E**	12 21 14	♍	6 58	5 31	6 25	11 31	6 55	5 34	6 28	8 31	6 53	5 36	6 31	6 45	5 45	6 40	7 31
17	Monday ...	12 0 20	♍	6 57	5 33	7 42	ev 21	6 54	5 35	7 44	9 21	6 52	5 37	7 45	6 44	5 46	7 50	8 21
18	Tuesday ..	11 39 16	♎	6 55	5 34	8 56	1 7	6 53	5 36	8 57	10 7	6 51	5 38	8 57	6 43	5 46	8 58	9 7
19	Wednesday	11 18 0	♎	6 54	5 35	10 8	1 52	6 51	5 38	10 7	10 52	6 50	5 39	10 7	6 42	5 47	10 4	9 52
20	Thursday .	10 56 34	♏	6 52	5 36	11 17	2 36	6 50	5 39	11 16	11 36	6 48	5 40	11 14	6 40	5 48	11 7	10 36
21	Friday....	10 34 58	♏	6 51	5 38	morn	3 17	6 49	5 40	morn	ev 17	6 47	5 42	morn	6 39	5 49	morn	11 17
22	Saturday..	10 13 12	♐	6 49	5 39	0 24	4 1	6 47	5 41	0 21	1 1	6 46	5 43	0 19	6 38	5 50	0 9	ev 1
23	**E**	9 51 16	♐	6 48	5 40	1 28	4 48	6 46	5 42	1 24	1 48	6 44	5 44	1 21	6 37	5 51	1 8	0 48
24	Monday ...	9 29 11	♐	6 46	5 42	2 27	5 47	6 44	5 43	2 23	2 47	6 43	5 45	2 20	6 36	5 52	2 5	1 47
25	Tuesday ..	9 6 57	♑	6 45	5 43	3 22	7 3	6 43	5 45	3 18	4 3	6 41	5 46	3 14	6 35	5 52	2 58	3 3
26	Wednesday	8 44 36	♑	6 43	5 44	4 12	8 25	6 41	5 46	4 7	5 25	6 40	5 47	4 4	6 34	5 53	3 47	4 25
27	Thursday .	8 22 7	♒	6 42	5 45	4 56	9 43	6 40	5 47	4 52	6 43	6 38	5 48	4 48	6 33	5 54	4 33	5 43
28	Friday....	7 59 30	♒	6 40	5 46	5 35	10 38	6 38	5 48	5 31	7 38	6 37	5 49	5 28	6 31	5 55	5 14	6 38



BENEFIT OF CHOPPING HAY, &c.

A GREAT deal may be saved to every farmer by the use of a good straw-cutter. A physician, who keeps but one horse, assures us, that kept in the usual way, with hay and mill feed, the food cost *fifty dollars* a year—now, by a cutter, the cost is only *thirty*. What, then, would be the saving for twenty cows and five horses?

Does some one ask how this great saving is made? We answer: 1st. There is no waste by treading under foot; 2dly, the food is more easily fitted for mastication, and is quickly ground up, and digests more perfectly—a most important advantage; 3dly, animals eat readily a great deal of nutritious food otherwise rejected, as straw, coarse hay, and corn stalks, mixed together—thus nothing is allowed to waste; 4thly, working animals obtain their meals more quickly, and have more time to rest; 5thly, the chopped food may be seasoned with a little meal, and thus grain and hay all be taken together, which is found to be much better than to feed unmixed, unground, and unchopped materials.

"Cutting hay," says a late writer, "is like making mince meat." There is nearly the same nutriment in the tough pieces, and even gristle, as in the tender ones. Now chop these up fine, and properly cook and season them, and the dish is eaten with peculiar relish, easily digests, and goes twice as far as in the ordinary method of taking meat in slices."

◆

ECONOMY OF TIME.

SCARCELY a farmer who is now reading these words, but who may think of some portion of the day, it may be only ten minutes, which he can devote to agricultural reading. Perhaps he spends already that much time in sitting idle, or in dipping into politics needlessly—could not a little improvement be made? And how much would the daily ten minutes be in a year? Five whole days, of ten hours each—for storing the mind with useful, profitable, and enduring facts. Now we have known more than one farmer to save frequently five, ten, or twenty dollars, by means of a single valuable idea, obtained through an agricultural paper. What a yearly loss, then, too many sustain, who throw these papers aside!

Every farmer should continue to give the best attention to his domestic animals. It is diligence only that can be crowned with success. The farmer must not trust too much to his help, but see for himself.

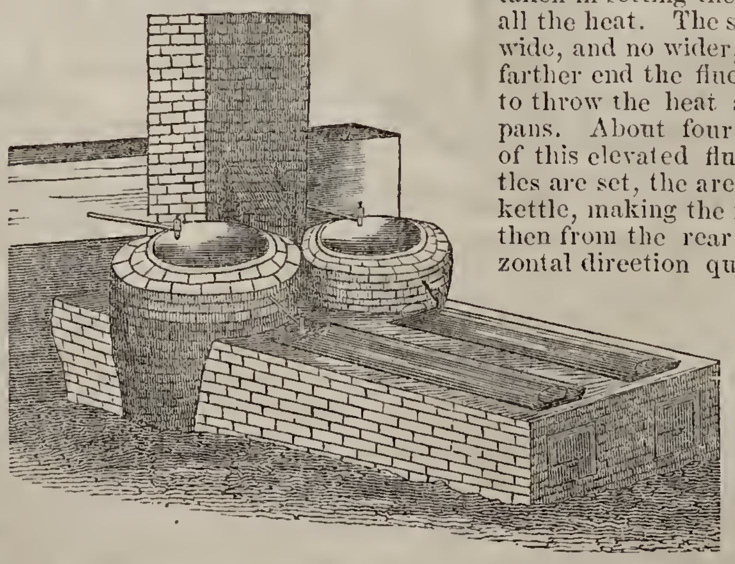
3d MONTH. MARCH, 1851. 31 Days.

MOON'S PHASES.	BOSTON.	NEW-YORK.	BALTIMORE.	CHARLESTON.	SUN ON MERIDIAN.
	D. H. M.	H. M.	H. M.	H. M.	D. H. M. S.
New Moon, ...	2 8 31 ev.	8 19 ev.	8 8 ev.	7 55 ev.	1 0 12 37
First Quarter, .	10 5 1 ev.	4 49 ev.	4 38 ev.	4 25 ev.	9 0 10 48
Full Moon, ...	17 8 35 mo.	8 23 mo.	8 12 mo.	7 59 mo.	17 0 8 35
Third Quarter,	24 8 42 mo.	8 30 mo.	8 19 mo.	8 6 mo.	25 0 6 9

Finish all winter jobs before the driving work of spring comes on—get tools, implements, and every thing else in readiness for the business of the approaching season—see that plows, carts, harrows, rakes and other things are in good order and rigged for work.

Day of Month.	Day of Week.	Sun's declina'n S	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon rises.	H. W. Bos'n.	Sun rises.	Sun sets.	Moon rises.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon rises.	Sun rises.	Sun sets.	Moon rises.	H. W. Ch'ton
		° ′ ″	♒	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Saturday..	7 36 46	♓	6 38	5 48	6 9	11 18	6 37	5 49	6 6	8 18	6 36	5 50	6 3	6 30	5 56	5 52	7 18
2	E	7 13 56	♓	6 37	5 49	sets	11 54	6 35	5 50	sets	8 54	6 34	5 51	sets	6 29	5 56	sets	7 54
3	Monday ...	6 51 0	♈	6 35	5 50	6 30	morn	6 34	5 52	6 32	9 26	6 33	5 53	6 33	6 28	5 57	6 38	8 26
4	Tuesday ..	6 27 57	♈	6 33	5 51	7 28	0 26	6 32	5 53	7 29	9 56	6 31	5 54	7 30	6 27	5 58	7 32	8 56
5	Wednesday	6 4 50	♈	6 32	5 53	8 28	0 56	6 31	5 54	8 28	10 24	6 30	5 55	8 28	6 25	5 59	8 27	9 24
6	Thursday .	5 41 37	♉	6 30	5 54	9 28	1 24	6 29	5 55	9 27	10 55	6 28	5 56	9 26	6 24	5 59	9 22	9 55
7	Friday	5 18 21	♉	6 28	5 55	10 30	1 55	6 27	5 56	10 28	11 26	6 27	5 57	10 26	6 33	6 0	10 19	10 26
8	Saturday..	4 55 0	♊	6 27	5 56	11 32	2 26	6 26	5 57	11 29	11 57	6 25	5 58	11 27	6 22	6 1	11 17	10 57
9	E	4 31 35	♊	6 25	5 57	morn	2 57	6 24	5 58	morn	morn	6 23	5 59	morn	6 20	6 2	morn	11 35
10	Monday ...	4 8 6	♋	6 23	5 59	0 36	3 35	6 23	5 59	0 32	0 35	6 22	6 0	0 30	6 19	6 3	0 16	morn
11	Tuesday ..	3 44 35	♋	6 22	6 0	1 39	4 18	6 21	6 0	1 35	1 18	6 20	6 1	1 32	6 18	6 3	1 17	0 18
12	Wednesday	3 21 1	♋	6 20	6 1	2 40	5 13	6 19	6 2	2 36	2 13	6 19	6 2	2 32	6 17	6 4	2 16	1 13
13	Thursday .	2 57 26	♌	6 18	6 2	3 37	6 32	6 18	6 3	3 32	3 32	6 17	6 3	3 29	6 15	6 5	3 14	2 32
14	Friday	2 33 47	♌	6 17	6 3	4 28	8 1	6 16	6 4	4 24	5 1	6 16	6 4	4 21	6 14	6 6	4 7	4 1
15	Saturday..	2 10 8	♌	6 15	6 4	5 13	9 21	6 14	6 5	5 10	6 24	6 14	6 5	5 7	6 13	6 6	4 57	5 24
16	E	1 46 28	♍	6 13	6 6	5 53	10 27	6 13	6 6	5 51	7 27	6 12	6 6	5 49	6 11	6 7	5 42	6 27
17	Monday ...	1 22 47	♍	6 11	6 7	rises	11 17	6 11	6 7	rises	8 17	6 11	6 7	rises	6 10	6 8	rises	7 17
18	Tuesday ..	0 59 5	♎	6 10	6 8	7 43	ev 3	6 9	6 8	7 43	9 3	6 9	6 8	7 43	6 9	6 8	7 42	8 3
19	Wednesday	0 35 24	♎	6 8	6 9	8 56	0 47	6 8	6 9	8 55	9 47	6 8	6 9	8 54	6 7	6 9	8 49	8 47
20	Thursday .	S.11 42	♏	6 6	6 10	10 7	1 28	6 6	6 10	10 4	10 28	6 6	6 10	10 2	6 6	6 10	9 53	9 28
21	Friday	N.11 59	♏	6 4	6 11	11 14	2 9	6 4	6 11	11 11	11 9	6 5	6 11	11 8	6 5	6 11	10 56	10 9
22	Saturday..	0 35 39	♐	6 3	6 12	morn	2 49	6 3	6 12	morn	11 49	6 3	6 12	morn	6 3	6 11	11 56	10 49
23	E	0 59 18	♐	6 1	6 14	0 18	3 29	6 1	6 13	0 13	ev 29	6 1	6 13	0 10	6 2	6 12	morn	11 29
24	Monday ...	1 22 55	♑	5 59	6 15	1 16	4 14	5 59	6 14	1 11	1 14	6 0	6 14	1 8	6 1	6 13	0 52	ev 14
25	Tuesday ..	1 46 30	♑	5 57	6 16	2 9	5 8	5 58	6 15	2 4	2 8	5 58	6 15	2 0	6 0	6 13	1 44	1 8
26	Wednesday	2 10 2	♑	5 56	6 17	2 55	6 25	5 56	6 16	2 50	3 25	5 57	6 16	2 47	5 58	6 14	2 31	2 25
27	Thursday .	2 33 33	♒	5 54	6 18	3 36	7 52	5 54	6 17	3 31	4 52	5 55	6 17	3 28	5 57	6 15	3 14	3 52
28	Friday....	2 57 0	♒	5 52	6 19	4 11	9 10	5 53	6 18	4 8	6 10	5 53	6 18	4 5	5 56	6 16	3 52	5 10
29	Saturday..	3 20 24	♓	5 50	6 20	4 43	10 10	5 51	6 20	4 40	7 10	5 52	6 19	4 38	5 54	6 16	4 28	6 10
30	E	3 43 44	♓	5 49	6 21	5 12	10 51	5 49	6 21	5 10	7 51	5 50	6 20	5 8	5 53	6 17	5 1	6 51
31	Monday ..	4 7 0	♓	5 47	6 23	5 38	11 24	5 48	6 22	5 37	8 24	5 49	6 21	5 37	5 52	6 18	5 32	7 24

SUGAR BOILING APPARATUS.



The accompanying cut represents an apparatus for holding and boiling the syrup, in making maple sugar. It is on a plan much approved in Vermont, by persons who make the best quality of this article. The arch of brick work is five feet six inches broad, and nine feet long to the back of the chimney. In front of this arch, as seen in the figure, are two sheet iron pans, each four feet long and twenty-one ins. wide. Directly in the rear of each of these pans, is a caldron, connected with the former by means of a tube and stop cock. In the rear of the whole is a large reservoir or trough, capable of holding nearly eight barrels, being connected with the kettles in the same manner as the kettles with the pans; and in the rear of this is another of the same dimensions, in both of which the sap is deposited. During the process of making sugar, a constant stream is kept running from the reservoir into the kettles, where the sap becomes heated, and is then passed into the pans by a constant stream, and is there reduced to a capacity for sugaring. The syrup is then removed and sugared in another department. Care should be taken in setting the pans and kettles, to save all the heat. The space under the pans is as wide, and no wider, than the bottom. At the farther end the flue rises six inches, in order to throw the heat against the bottom of the pans. About four inches above the bottom of this elevated flue, the bottoms of the kettles are set, the arch being headed up to the kettle, making the flue about ten inches deep; then from the rear, the flue passes in a horizontal direction quite round the kettle, and leads into the chimney. It will be found expedient to keep the flues separate, some five or six feet in the chimney.

Sugar made by the above process, is much superior to that made in the ordinary way, and is worth more in market. There are many farmers in Vermont who make one thousand pounds and upwards in a season, which readily sells at ten cents per pound by the quantity.

4th Month. **APRIL, 1851.** **30 Days.**

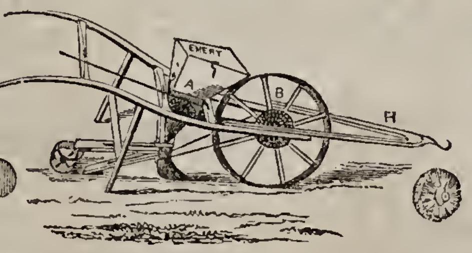
MOON'S PHASES.	BOSTON. D. H. M.	NEW-YORK. H. M.	BALTIMORE. H. M.	CHARLESTON. H. M.	SUN ON MERIDIAN. D. H. M. S.
New Moon, ...	1 1 49 ev.	1 37 ev.	1 26 ev.	1 13 ev.	1 0 4 1
First Quarter,.	9 2 18 mo.	2 6 mo.	1 55 mo.	1 42 mo.	9 0 1 40
Full Moon, ...	15 5 51 ev.	5 39 ev.	5 28 ev.	5 15 ev.	17 morning.
Third Quarter,	23 2 14 mo.	2 2 mo.	1 51 mo.	1 38 mo.	25 11 57 54

Repair fences, lay up fallen rails, nail loose boards, and rebuild tumbling walls—clear, pick, roll, and plaster meadows, clearing off rubbish and stones, and thus save a week's work at the grindstone at mowing time—prepare ground for crops, draw out manure, etc., etc

Day of Month.	Day of Week.	Sun's declina'n S.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa. Sun rises.	Sun sets.	Moon sets.	H. W. Bost'n	CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois. Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	CALENDAR For Baltimore, Virginia, Kentucky, and Missouri. Sun rises.	Sun sets.	Moon sets.	CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana. Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	Tuesday ..	4 30 11	♈	5 45	6 24	sets	11 55	5 46	6 23	sets	8 55	5 47	6 22	sets	5 50	6 18	sets	7 55
2	Wednesday	4 53 18	♈	5 43	6 25	7 22	morn	5 45	6 24	7 21	9 25	5 45	6 23	7 20	5 49	6 19	7 17	8 25
3	Thursday .	5 16 19	♉	5 42	6 26	8 23	0 25	5 43	6 25	8 22	9 55	5 44	6 24	8 21	5 48	6 20	8 14	8 55
4	Friday....	5 39 14	♉	5 40	6 27	9 26	0 55	5 41	6 26	9 24	10 27	5 42	6 25	9 22	5 46	6 20	9 12	9 27
5	Saturday..	6 2 4	♊	5 38	6 28	10 30	1 27	5 40	6 27	10 27	10 59	5 41	6 26	10 24	5 45	6 21	10 11	9 59
6	E	6 24 48	♊	5 37	6 29	11 33	1 59	5 38	6 28	11 29	11 34	5 39	6 27	11 26	5 44	6 22	11 11	10 34
7	Monday ...	6 47 24	♊	5 35	6 30	morn	2 34	5 36	6 29	morn	morn	5 38	6 28	morn	5 43	6 23	morn	11 12
8	Tuesday ..	7 9 55	♋	5 33	6 31	0 34	3 12	5 35	6 30	0 30	0 12	5 36	6 29	0 26	5 41	6 23	0 10	11 56
9	Wednesday	7 32 17	♋	5 32	6 33	1 31	3 56	5 33	6 31	1 26	0 56	5 35	6 30	1 23	5 40	6 24	1 7	morn
10	Thursday .	7 54 32	♌	5 30	6 34	2 22	4 57	5 32	6 32	2 18	1 57	5 33	6 31	2 15	5 39	6 25	2 0	0 57
11	Friday....	8 16 38	♌	5 28	6 35	3 8	6 16	5 30	6 33	3 4	3 16	5 31	6 31	3 2	5 38	6 25	2 49	2 16
12	Saturday..	8 38 36	♍	5 27	6 36	3 48	7 47	5 29	6 34	3 46	4 47	5 30	6 32	3 44	5 36	6 26	3 34	3 47
13	E	9 0 27	♍	5 25	6 37	4 24	9 8	5 27	6 35	4 23	6 8	5 28	6 33	4 22	5 35	6 27	4 16	5 8
14	Monday ...	9 22 7	♎	5 23	6 38	4 57	10 9	5 25	6 36	4 57	7 9	5 27	6 34	4 57	5 34	6 27	4 55	6 9
15	Tuesday ..	9 43 38	♎	5 22	6 39	rises	10 57	5 24	6 37	rises	7 57	5 25	6 35	rises	5 33	6 28	rises	6 57
16	Wednesday	10 5 0	♏	5 20	6 40	7 43	11 39	5 22	6 38	7 41	8 39	5 24	6 36	7 40	5 31	6 29	7 33	7 39
17	Thursday .	10 26 11	♏	5 18	6 41	8 54	ev 23	5 21	6 39	8 51	9 23	5 23	6 37	8 48	5 30	6 30	8 38	8 23
18	Friday....	10 47 12	♐	5 17	6 43	10 1	1 4	5 19	6 40	9 57	10 4	5 21	6 38	9 54	5 29	6 30	9 41	9 3
19	Saturday..	11 8 3	♐	5 15	6 44	11 4	1 43	5 18	6 41	10 59	10 43	5 20	6 39	10 56	5 28	6 31	10 40	9 43
20	E	11 28 43	♑	5 14	6 45	morn	2 22	5 16	6 42	11 56	11 22	5 18	6 40	11 52	5 27	6 32	11 36	10 22
21	Monday ...	11 49 12	♑	5 12	6 46	0 1	3 4	5 15	6 43	morn	ev 4	5 17	6 41	morn	5 26	6 32	morn	11 4
22	Tuesday ..	12 9 28	♑	5 11	6 47	0 51	3 46	5 13	6 44	0 46	0 46	5 15	6 42	0 42	5 24	6 33	0 26	11 46
23	Wednesday	12 29 34	♒	5 9	6 48	1 34	4 37	5 12	6 45	1 30	1 37	5 14	6 43	1 26	5 23	6 34	1 11	ev 37
24	Thursday .	12 49 27	♒	5 8	6 49	2 12	5 46	5 11	6 46	2 8	2 46	5 13	6 44	2 5	5 22	6 34	1 51	1 46
25	Friday....	13 9 8	♓	5 6	6 50	2 45	7 8	5 9	6 47	2 42	4 8	5 11	6 45	2 39	5 21	6 35	2 28	3 8
26	Saturday..	13 28 35	♓	5 5	6 51	3 14	8 23	5 8	6 48	3 12	5 23	5 10	6 46	3 10	5 20	6 36	3 2	4 23
27	E	13 47 49	♓	5 3	6 53	3 42	9 28	5 6	6 49	3 40	6 28	5 9	6 47	3 39	5 19	6 37	3 34	5 28
28	Monday ...	14 6 51	♈	5 2	6 54	4 8	10 11	5 5	6 50	4 7	7 11	5 7	6 48	4 7	5 18	6 37	4 4	6 11
29	Tuesday ..	14 25 38	♈	5 0	6 55	4 35	10 48	5 4	6 52	4 35	7 48	5 6	6 49	4 35	5 17	6 38	4 35	6 48
30	Wednesday	14 44 11	♉	4 59	6 56	5 0	11 23	5 2	6 53	5 2	8 23	5 5	6 50	5 3	5 16	6 39	5 7	7 23

SEED SOWERS OR DRILLS.

Among the labor-saving implements which have been introduced into agricultural operations, few are more valuable than seed-sowers. Those which are properly constructed, deposit the seed more perfectly than it is usually done by hand, while at the same time the work is performed five times, and in some instances ten times more rapidly than it can be by the former mode.



The accompanying cut represents "Emery's seed-drill and corn-planter," which is one of the best machines for this purpose that we have seen. It is calculated for sowing all kinds of seeds, from onion and turnep seed to Indian corn. By changing the apparatus for dropping the seed, it can be deposited at distances varying from three inches to six feet. It may be used by hand, or by being made of larger size and greater strength, may be drawn by a horse. For gardening purposes it is commonly operated by hand, and for field operations by horse-power. It is in great requisition for planting broomcorn and beans, and is used to a great extent in planting Indian corn. Some of the heaviest crops of the latter which have been raised in this State for the last two or three years, have been planted by this machine. A man and boy, with a horse, can plant from twelve to fifteen acres in a day. The amount which can be planted in a given time, depends on the width of the rows. The statement in regard to the amount of corn planted in a day, is on the supposition that the rows are three and a half feet apart.

The depth of planting can be regulated at will, by raising or lowering the plow which makes the furrow. For small seeds, a depth of an inch is sufficient. For corn and beans, two inches is the usual depth. Crops planted with this machine, from the regularity of the rows, are cultivated with much ease and at little expense.

INTERESTING EXPERIMENTS.

Adam Clark, of Milo, N. Y., gives the result of an experiment, which is worthy the attention of all wheat raisers. Four pieces of ground, each two feet square, of finely prepared ground, were planted with wheat, a grain each at the intersection of straight lines drawn across each plat. The experiment and results we have condensed in the following table:

	No. 1.	No. 2.	No. 3.	No. 4.
Distances of seed asunder	1½ in.	3 in.	4 in.	4 4-5 in.
Number of grains planted,....	289	81	49	36
Number of grains that grew,.	203	60	40	30
Number of heads,............	286	136	112	104
Whole number of grains, ...	7458	4765	4452	4399
Yield per acre in bushels, ...	108	69	64	63
Seed per acre in bush. & lbs.	4 bu. 12 lbs.	1 bu. 10 lbs.	42¾ lbs	31½ lbs

5th MONTH. MAY, 1851. 31 Days.

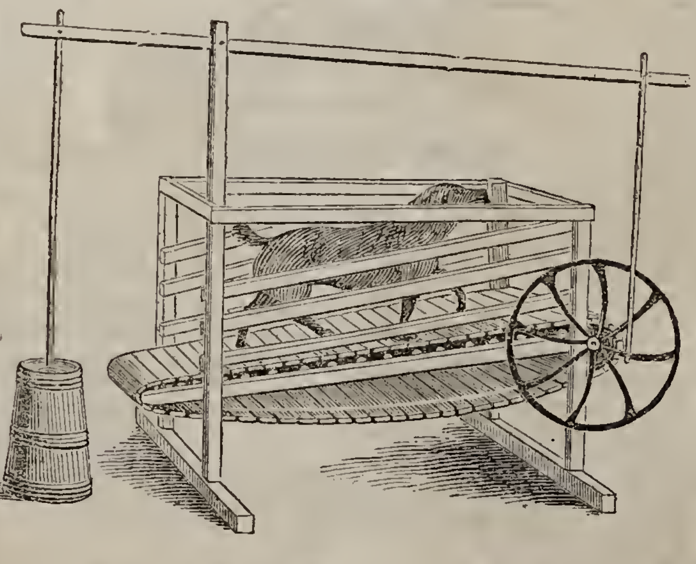
MOON'S PHASES.	BOSTON. D. H. M.	NEW-YORK. H. M.	BALTIMORE. H. M.	CHARLESTON. H. M.	SUN ON MERIDIAN. D. H. M. S.
New Moon, ...	1 4 18 mo.	4 6 mo.	3 55 mo.	3 42 mo.	1 11 56 59
First Quarter,.	8 8 50 mo.	8 38 mo.	8 27 mo.	8 14 mo.	9 11 56 16
Full Moon,....	15 3 21 mo.	3 9 mo.	2 58 mo.	2 45 mo.	17 11 56 8
Third Quarter,	22 8 21 ev.	8 9 ev.	7 58 ev.	7 45 ev.	25 11 56 36
New Moon, ...	30 4 3 ev.	3 51 ev.	3 40 ev.	3 27 ev.	....

Make vigorous preparations to put in crops. Let them be planted in the best manner—an additional half day in doing work well, may secure an additional wagon load of products. Thorough work is economy. Plant corn early—more is lost from late than early planting. Plant in straight rows.

Day of Month.	Day of Week.	Sun's declin'n N.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon sets.	H. W. Bos'n.	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″	♉	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Thursday .	15 2 30	♉	4 58	6 57	sets	11 54	5 1	6 54	sets	8 54	5 4	6 51	sets	5 15	6 40	sets	7 54
2	Friday	15 20 33	♊	4 56	6 58	8 22	morn	5 0	6 55	8 19	9 29	5 2	6 52	8 16	5 14	6 40	8 5	8 29
3	Saturday..	15 38 22	♊	4 55	6 59	9 27	0 29	4 59	6 56	9 23	10 1	5 1	6 53	9 20	5 13	6 41	9 6	9 1
4	**E**	15 55 55	♋	4 54	7 0	10 30	1 1	4 57	6 57	10 25	10 37	5 0	6 54	10 22	5 12	6 42	10 6	9 37
5	Monday ...	16 13 12	♋	4 52	7 1	11 28	1 37	4 56	6 58	11 24	11 14	4 59	6 55	11 20	5 11	6 42	11 4	10 14
6	Tuesday ..	16 30 12	♌	4 51	7 2	morn	2 14	4 55	6 59	morn	11 57	4 58	6 56	morn	5 10	6 43	11 58	10 57
7	Wednesday	16 46 57	♌	4 50	7 3	0 21	2 57	4 54	7 0	0 17	morn	4 57	6 57	0 14	5 9	6 44	morn	11 47
8	Thursday .	17 3 25	♍	4 49	7 5	1 8	3 47	4 53	7 1	1 4	0 47	4 56	6 58	1 1	5 8	6 45	0 48	morn
9	Friday	17 19 36	♍	4 48	7 6	1 48	4 49	4 51	7 2	1 46	1 49	4 54	6 59	1 43	5 8	6 45	1 33	0 49
10	Saturday..	17 35 29	♎	4 46	7 7	2 24	6 8	4 50	7 3	2 23	3 8	4 53	6 59	2 21	5 7	6 46	2 14	2 8
11	**E**	17 51 5	♎	4 45	7 8	2 57	7 30	4 49	7 4	2 57	4 30	4 52	7 0	2 56	5 6	6 47	2 53	3 30
12	Monday ...	18 6 22	♏	4 44	7 9	3 29	8 45	4 48	7 5	3 29	5 45	4 51	7 1	3 30	5 5	6 47	3 30	4 45
13	Tuesday ..	18 21 21	♏	4 43	7 10	4 0	9 42	4 47	7 6	4 1	6 42	4 50	7 2	4 3	5 4	6 48	4 7	5 42
14	Wednesday	18 36 1	♏	4 42	7 11	4 32	10 31	4 46	7 6	4 35	7 31	4 49	7 3	4 37	5 4	6 49	4 45	6 31
15	Thursday .	18 50 24		4 41	7 12	rises	11 17	4 45	7 7	rises	8 17	4 49	7 4	rises	5 3	6 50	rises	7 17
16	Friday	19 4 27	♐	4 40	7 13	8 48	ev 2	4 44	7 8	8 43	9 2	4 48	7 5	8 40	5 2	6 50	8 25	8 2
17	Saturday..	19 18 11	♐	4 39	7 14	9 48	0 41	4 43	7 9	9 44	9 41	4 47	7 6	9 40	5 2	6 51	9 24	8 41
18	**E**	19 31 35	♑	4 38	7 15	10 43	1 21	4 43	7 10	10 38	10 21	4 46	7 7	10 34	5 1	6 52	10 17	9 21
19	Monday ...	19 44 39	♑	4 37	7 16	11 30	2 1	4 42	7 11	11 25	11 1	4 45	7 8	11 22	5 0	6 52	11 5	10 1
20	Tuesday ..	19 57 23	♒	4 36	7 17	morn	2 41	4 41	7 12	morn	11 41	4 44	7 9	morn	5 0	6 53	11 49	10 41
21	Wednesday	20 9 47	♒	4 35	7 18	0 11	3 22	4 40	7 13	0 6	ev 22	4 44	7 9	0 3	4 59	6 54	morn	11 22
22	Thursday .	20 21 50	♒	4 34	7 19	0 46	4 12	4 39	7 14	0 42	1 12	4 43	7 10	0 39	4 59	6 54	0 27	ev 12
23	Friday	20 33 33	♓	4 34	7 20	1 17	5 6	4 38	7 15	1 14	2 6	4 42	7 11	1 12	4 58	6 55	1 2	1 6
24	Saturday..	20 44 54	♓	4 33	7 21	1 44	6 14	4 38	7 16	1 43	3 14	4 41	7 12	1 41	4 58	6 56	1 34	2 14
25	**E**	20 55 55	♈	4 32	7 22	2 10	7 26	4 37	7 17	2 10	4 26	4 41	7 13	2 9	4 57	6 56	2 5	3 26
26	Monday ...	21 6 34	♈	4 31	7 22	2 36	8 27	4 36	7 17	2 36	5 27	4 40	7 14	2 36	4 57	6 57	2 35	4 27
27	Tuesday ..	21 16 50	♈	4 31	7 23	3 2	9 23	4 36	7 18	3 3	6 23	4 40	7 14	3 4	4 56	6 58	3 7	5 23
28	Wednesday	21 26 45	♉	4 30	7 24	3 29	10 6	4 35	7 19	3 31	7 6	4 39	7 15	3 33	4 56	6 58	3 39	6 6
29	Thursday .	21 36 18	♉	4 29	7 25	4 0	10 45	4 35	7 20	4 3	7 45	4 39	7 16	4 6	4 55	6 59	4 15	6 45
30	Friday....	21 45 28	♊	4 29	7 26	sets	11 23	4 34	7 21	sets	8 23	4 38	7 17	sets	4 55	6 59	sets	7 23
31	Saturday..	21 54 17	♊	4 28	7 27	8 20	morn	4 34	7 21	8 16	9 3	4 38	7 17	8 12	4 55	7 0	7 57	8 3

DOG-POWER.

In small dairies, a dog-power for driving the churn, has been found very convenient. It may also be used for turning grindstones. The accompanying figure represents one of the best improved now in use. It is an endless platform formed upon two India rubber straps, connected by rivets to light cross pieces of wood. It is easily graduated to the weight of the dog, by raising or lowering one end of the platform. Some prefer sheep to dogs for this purpose. The machine is sold at the agricultural warehouses, for $12.50.



For large dairies, a single horse-power will be found most efficient. Such a power may be used for other purposes. An ingenious farmer in western New-York has constructed a two-horse-power with his own hands, without cog-wheels, but merely with band-wheels, which churns, turns grindstone, saws wood, slits pickets for fence, and threshes grain; and it might easily be applied to driving a washing machine. Why should the economical farmer have such work done by human beings, when the same amount of horse-strength can be had for a tenth of the cost? Besides which, every farmer has an idle horse at some time during each week.

◆

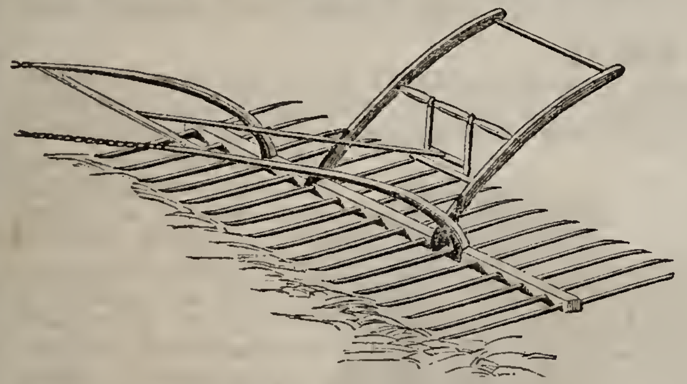
Harrowing Wheat in Spring.—Myron Adams, of East Bloomfield, N.Y., has for many years harrowed over the whole of his wheat fields every spring, pulverizing the crust and greatly benefiting the crop. If the ground is to be seeded with clover, it is harrowed in at this time. The whole amount torn up by the roots has been found by examination not to exceed the amount of a bushel on ten acres. The wheat looks rather unpromising when thus dusted over with earth, but the first shower washes it off and leaves it vigorous.

6th Month. **JUNE, 1851.** **30 Days.**

MOON'S PHASES.	BOSTON.	NEW-YORK.	BALTIMORE.	CHARLESTON	SUN ON MERIDIAN.
	D. H. M.	H. M.	H. M.	H. M.	D. H. M. S.
First Quarter,.	6 1 44 ev.	1 32 ev.	1 21 ev.	1 8 ev.	1 11 57 27
Full Moon,....	13 2 0 ev.	1 48 ev.	1 37 ev.	1 24 ev.	9 11 58 50
Third Quarter,	21 1 51 ev.	1 39 ev.	1 28 ev.	1 15 ev.	17 ev. 0 28
New Moon, ...	29 1 41 mo.	1 29 mo.	1 18 mo.	1 5 mo.	25 0 2 11

The crops for the season being now mostly planted, see that weeds do not devour them. "A stitch in time saves nine," whether applied to pantaloons or to potatoes. Sow corn for fodder. Sow ruta bagas, from 1st to 16th, in clean, rich soil. Destroy the curculio on young fruit.

Day of Month.	Day of Week.	Sun's declina'n N.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon sets.	H. W. Bost'n	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″	♋	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	E	22 2 41	♋	4 28	7 27	9 22	0 3	4 33	7 22	9 17	9 40	4 37	7 18	9 14	4 54	7 1	8 57	8 40
2	Monday ..	22 10 43	♌	4 27	7 28	10 18	0 40	4 33	7 23	10 14	10 21	4 37	7 19	10 10	4 54	7 1	9 54	9 21
3	Tuesday ..	22 18 22	♌	4 27	7 29	11 8	1 21	4 32	7 23	11 4	11 4	4 36	7 19	11 1	4 54	7 2	10 47	10 4
4	Wednesday	22 25 38	♍	4 27	7 29	11 51	2 4	4 32	7 24	11 48	11 49	4 36	7 20	11 45	4 54	7 2	11 33	10 49
5	Thursday .	22 32 30	♍	4 26	7 30	morn	2 49	4 32	7 25	morn	morn	4 36	7 21	morn	4 53	7 3	morn	11 45
6	Friday....	22 38 58	♍	4 26	7 31	0 28	3 45	4 31	7 25	0 26	0 45	4 35	7 21	0 24	4 53	7 3	0 16	morn
7	Saturday..	22 45 2	♎	4 26	7 31	1 1	4 44	4 31	7 26	1 0	1 44	4 35	7 22	0 59	4 53	7 4	0 54	0 44
8	E	22 50 42	♎	4 25	7 32	1 32	5 54	4 31	7 27	1 32	2 54	4 35	7 22	1 32	4 53	7 4	1 31	1 54
9	Monday ...	22 55 58	♏	4 25	7 33	2 2	7 7	4 31	7 27	2 3	4 7	4 35	7 23	2 4	4 53	7 5	2 7	3 7
10	Tuesday ..	23 0 50	♏	4 25	7 33	2 33	8 14	4 30	7 28	2 35	5 14	4 35	7 24	2 37	4 53	7 5	2 43	4 14
11	Wednesday	23 5 18		4 25	7 34	3 5	9 16	4 30	7 28	3 9	6 16	4 34	7 24	3 12	4 53	7 6	3 21	5 16
12	Thursday .	23 9 22	♐	4 24	7 34	3 41	10 10	4 30	7 29	3 46	7 10	4 34	7 25	3 49	4 53	7 6	4 2	6 10
13	Friday....	23 13 0	♐	4 24	7 35	rises	10 59	4 30	7 29	rises	7 59	4 34	7 25	rises	4 53	7 6	rises	6 59
14	Saturday..	23 16 15	♑	4 24	7 35	8 33	11 43	4 30	7 30	8 28	8 43	4 34	7 26	8 24	4 53	7 7	8 7	7 43
15	E	23 19 5	♑	4 24	7 36	9 23	ev 26	4 30	7 30	9 19	9 26	4 34	7 26	9 15	4 53	7 7	8 58	8 26
16	Monday ...	23 21 30	♑	4 24	7 36	10 7	1 5	4 30	7 31	10 3	10 5	4 34	7 26	9 59	4 53	7 7	9 44	9 5
17	Tuesday ..	23 23 30	♒	4 24	7 36	10 45	1 43	4 30	7 31	10 41	10 43	4 34	7 27	10 38	4 53	7 8	10 24	9 43
18	Weduesday	23 25 6	♒	4 24	7 37	11 18	2 22	4 30	7 31	11 14	11 22	4 34	7 27	11 12	4 53	7 8	11 1	10 22
19	Thursday .	23 26 17	♓	4 25	7 37	11 47	3 1	4 30	7 31	11 44	ev 1	4 35	7 27	11 43	4 53	7 8	11 34	11 1
20	Friday....	23 27 3	♓	4 25	7 37	morn	3 43	4 30	7 32	morn	0 43	4 35	7 27	morn	4 53	7 9	morn	11 43
21	Saturday..	23 27 24	♓	4 25	7 38	0 13	4 28	4 31	7 32	0 12	1 28	4 35	7 28	0 11	4 54	7 9	0 5	ev 28
22	E	23 27 21	♈	4 25	7 38	0 38	5 20	4 31	7 32	0 38	2 20	4 35	7 28	0 38	4 54	7 9	0 36	1 20
23	Monday ...	23 26 52	♈	4 25	7 38	1 3	6 23	4 31	7 32	1 4	3 23	4 35	7 28	1 5	4 54	7 9	1 6	2 23
24	Tuesday ..	23 26 0	♉	4 26	7 38	1 30	7 24	4 31	7 32	1 31	4 24	4 36	7 28	1 33	4 54	7 9	1 37	3 24
25	Wednesday	23 24 42	♉	4 26	7 38	1 58	8 23	4 32	7 33	2 1	5 23	4 36	7 28	2 3	4 55	7 10	2 11	4 23
26	Thursday .	23 23 0	♊	4 26	7 38	2 31	9 22	4 32	7 33	2 34	6 22	4 36	7 28	2 38	4 55	7 10	2 49	5 22
27	Friday....	23 20 53	♊	4 27	7 38	3 9	10 11	4 32	7 33	3 13	7 11	4 36	7 28	3 17	4 55	7 10	3 31	6 11
28	Saturday..	23 18 21	♊	4 27	7 38	3 54	10 55	4 33	7 33	3 59	7 55	4 37	7 28	4 4	4 56	7 10	4 20	6 55
29	E	23 15 25	♋	4 27	7 38	sets	11 40	4 33	7 33	sets	8 40	4 37	7 28	sets	4 56	7 10	sets	7 40
30	Monday ...	23 12 4	♋	4 28	7 38	9 2	morn	4 33	7 33	8 58	9 26	4 38	7 28	8 55	4 56	7 10	8 40	8 26



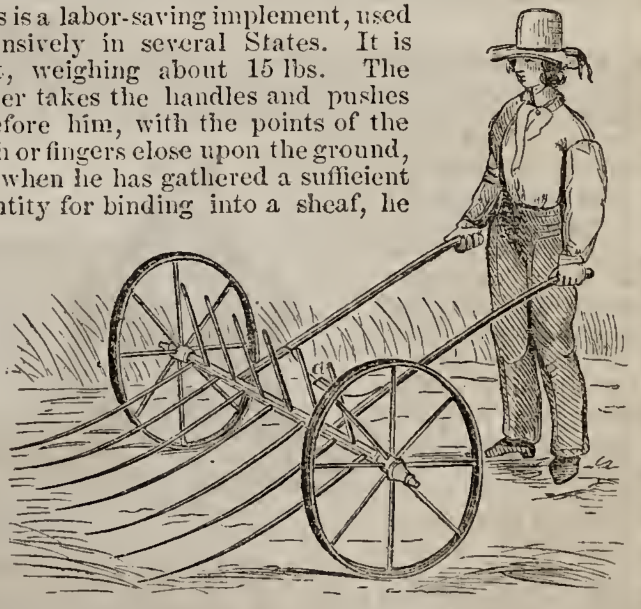
THE HORSE RAKE.

MANY farmers are still unsupplied with horse-rakes. Those who have tried them would almost as soon think of doing without a plow, and dig by hand. We lately saw four strong men on a fine meadow of dried hay, working might and main with hand rakes, to save it from the onward-marching thunder storm. One of them, with a good revolver, would have collected the hay thrice as fast as the four, and probably have saved many dollars loss in spoiled hay and hard work. Twenty-four acres may be raked by one horse in a day.

The revolver is best for hay; the spring-toothed for gleaning. The latter will also work best on rough or stony ground, and either are fine for gleaning meadows, and will save much hand-labor after the pitch fork. The spring-tooth rake is a great labor-saver in pulling and gathering peas.

GRAIN BINDERS' WHEEL-RAKE.

THIS is a labor-saving implement, used extensively in several States. It is light, weighing about 15 lbs. The binder takes the handles and pushes it before him, with the points of the teeth or fingers close upon the ground, and when he has gathered a sufficient quantity for binding into a sheaf, he places his foot upon the foot-piece, (*a*) and by a slight pressure, and letting go the handles, the fingers and grain are raised above the stubble, when it is readily bound, the binder being required to stoop much less than in the old way of reaching to the ground. When the sheaf is bound and thrown aside, the foot is removed from the foot-piece, the teeth drop down, and the handles rise ready for the next operation.



7th MONTH. **JULY, 1851.** **31 Days.**

MOON'S PHASES.	BOSTON.	NEW-YORK.	BALTIMORE.	CHARLESTON.	SUN ON MERIDIAN.
	D. H. M.	H. M.	H. M.	H. M.	D. H. M. S.
First Quarter,.	5 6 24 ev.	6 14 ev.	6 1 ev.	5 48 ev.	1 0 3 25
Full Moon, ...	13 2 30 mo.	2 18 mo.	2 7 mo.	1 54 mo.	9 0 4 49
Third Quarter,	21 5 55 mo.	5 43 mo.	5 32 mo.	5 19 mo.	17 0 5 46
New Moon, ...	28 9 56 mo.	9 44 mo.	9 33 mo.	9 20 mo.	25 0 6 11

Look well to weeds. Would you avoid an invading army of robbers? Then destroy weeds on their first approach; for they devour more of the riches of the soil and of the weight of the crop, every year in the country, than would feed the army of Napoleon.

Day of Month.	Day of Week.	Sun's declina'n N.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa. Sun rises.	Sun sets.	Moon sets.	H. W. Bos'n.	CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois. Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	CALENDAR For Baltimore, Virginia, Kentucky, and Missouri. Sun rises.	Sun sets.	Moon sets.	CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana. Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″	♌	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Tuesday ..	23 8 19	♌	4 28	7 38	9 49	0 26	4 34	7 33	9 46	10 11	4 38	7 28	9 43	4 57	7 10	9 30	9 11
2	Wednesday	23 4 10	♍	4 29	7 38	10 29	1 11	4 34	7 33	10 27	10 56	4 39	7 28	10 25	4 57	7 10	10 15	9 56
3	Thursday .	22 59 36	♍	4 29	7 38	11 4	1 56	4 35	7 32	11 2	11 44	4 39	7 28	11 1	4 58	7 10	10 56	10 44
4	Friday	22 54 39	♎	4 30	7 38	11 36	2 44	4 35	7 32	11 36	morn	4 40	7 28	11 35	4 58	7 10	11 33	11 36
5	Saturday..	22 49 17	♎	4 31	7 37	morn	3 36	4 36	7 32	morn	0 36	4 40	7 28	morn	4 58	7 10	morn	morn
6	E	22 43 31	♏	4 31	7 37	0 6	4 32	4 37	7 32	0 7	1 32	4 41	7 28	0 8	4 59	7 9	0 9	0 32
7	Monday ...	22 37 22	♏	4 32	7 37	0 36	5 33	4 37	7 31	0 38	2 33	4 41	7 27	0 40	4 59	7 9	0 45	1 33
8	Tuesday ..	22 30 49	♐	4 32	7 37	1 8	6 39	4 38	7 31	1 11	3 39	4 42	7 27	1 13	5 0	7 9	1 22	2 39
9	Wednesday	22 23 54	♐	4 33	7 36	1 42	7 44	4 38	7 31	1 46	4 44	4 43	7 27	1 49	5 0	7 9	2 1	3 44
10	Thursday .	22 16 35	♑	4 34	7 36	2 20	8 51	4 39	7 30	2 25	5 51	4 43	7 26	2 29	5 1	7 9	2 43	4 51
11	Friday	22 8 52	♑	4 34	7 35	3 2	9 50	4 40	7 30	3 8	6 50	4 44	7 26	3 12	5 1	7 8	3 29	5 50
12	Saturday..	22 0 47	♑	4 35	7 35	3 50	10 42	4 40	7 29	3 56	7 42	4 44	7 26	4 1	5 2	7 8	4 19	6 42
13	E	21 52 20		4 36	7 34	rises	11 30	4 41	7 29	rises	8 30	4 45	7 25	rises	5 2	7 8	rises	7 30
14	Monday ...	21 43 30	♒	4 37	7 34	8 43	ev 12	4 42	7 28	8 39	9 12	4 46	7 25	8 36	5 3	7 7	8 22	8 12
15	Tuesday ..	21 34 18	♒	4 38	7 33	9 18	0 51	4 43	7 28	9 14	9 51	4 47	7 24	9 12	5 4	7 7	9 0	8 51
16	Wednesday	21 24 43	♓	4 38	7 32	9 48	1 26	4 43	7 27	9 46	10 26	4 47	7 24	9 44	5 4	7 7	9 34	9 26
17	Thursday .	21 14 47	♓	4 39	7 32	10 16	2 1	4 44	7 27	10 14	11 1	4 48	7 23	10 13	5 5	7 6	10 6	10 1
18	Friday	21 4 28	♓	4 40	7 31	10 41	2 36	4 45	7 26	10 40	11 36	4 49	7 22	10 40	5 5	7 6	10 36	10 36
19	Saturday..	20 53 50	♈	4 41	7 30	11 6	3 13	4 46	7 25	11 6	ev 13	4 50	7 22	11 6	5 6	7 5	11 6	11 13
20	E	20 42 48	♈	4 42	7 30	11 31	3 50	4 47	7 25	11 32	0 50	4 50	7 21	11 33	5 7	7 5	11 36	11 50
21	Monday ...	20 31 27	♉	4 43	7 29	11 58	4 33	4 48	7 24	12 0	1 33	4 51	7 20	morn	5 7	7 4	morn	ev 33
22	Tuesday ..	20 19 45	♉	4 44	7 28	morn	5 22	4 48	7 23	morn	2 22	4 52	7 20	0 2	5 8	7 4	0 8	1 22
23	Wednesday	20 7 43	♉	4 44	7 27	0 28	6 25	4 49	7 22	0 31	3 25	4 53	7 19	0 34	5 9	7 3	0 43	2 25
24	Thursday .	19 55 20		4 45	7 26	1 2	7 30	4 50	7 22	1 6	4 30	4 54	7 18	1 10	5 9	7 3	1 23	3 30
25	Friday	19 42 36		4 46	7 25	1 43	8 36	4 51	7 21	1 48	5 36	4 55	7 17	1 52	5 10	7 2	2 8	4 36
26	Saturday..	19 29 35	♋	4 47	7 24	2 32	9 40	4 52	7 20	2 38	6 40	4 55	7 16	2 43	5 11	7 1	3 0	5 40
27	E	19 16 12	♋	4 48	7 23	3 31	10 33	4 53	7 19	3 36	7 33	4 56	7 16	3 41	5 11	7 1	3 59	6 33
28	Monday ...	19 2 31	♌	4 49	7 22	sets	11 25	4 54	7 18	sets	8 25	4 57	7 15	sets	5 12	7 0	sets	7 25
29	Tuesday ..	18 48 31	♌	4 50	7 21	8 24	morn	4 55	7 17	8 21	9 13	4 58	7 14	8 19	5 13	6 59	8 8	8 13
30	Wednesday	18 34 12	♍	4 51	7 20	9 3	0 13	4 56	7 16	9 1	9 59	4 59	7 13	8 59	5 13	6 59	8 52	8 59
31	Thursday .	18 19 35	♍	4 52	7 19	9 37	0 59	4 56	7 15	9 36	10 43	5 0	7 12	9 36	5 14	6 58	9 32	9 43

SHOCKS OF WHEAT.

Many hundred thousand bushels of wheat were lost in 1850, by the continued rains at harvest. A large portion might have been saved, if all had been well put up as soon as cut, into water-proof shocks.

Another reason for putting up shocks secure from rain, is the fact, now thoroughly established, that wheat cut a full week before it is dead ripe, actually weighs more (as the writer has carefully tried) than dead-ripe grain, besides furnishing less bran, better straw, and shelling less in the field. It also allows the farmer more time. Now, when cut partly green, it must stand a few days to mature, before drawn into the barn.

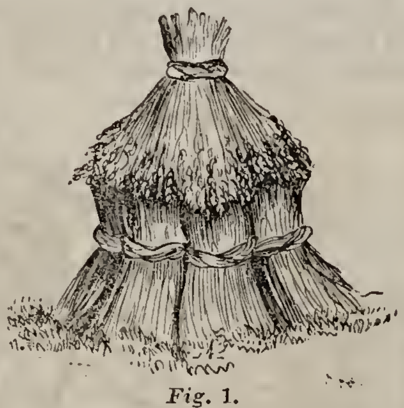


Fig. 1.

Various sorts of water-proof shocks have been tried. The common mode of setting the sheaves in simple double rows, affords no protection from long and heavy rains. Covering these with two nearly horizontal sheaves, with heads meeting in the middle, as often done, is not much better. A very good way is represented in the annexed figure, (fig. 1.) This shock is made by setting up half a dozen sheaves in a round, compact form, and then binding another sheaf firmly near the butts—breaking down the straw equally on all sides from the centre, and finally placing the cap, thus prepared, in an inverted position upon the shock. A shock, thus made, with the sheaves compactly, evenly, and neatly placed, will withstand perfectly a week's rain. A more rapid mode, and nearly or quite as good, is shown by fig. 2, and consists, first, of the six round, compact sheaves, which are then covered with two others, broken at the middle and laid on in the form of a cross, spreading out the ends so as to form a perfect shield from storms.

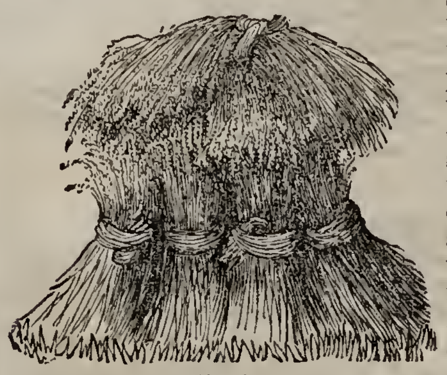


Fig. 2.

Many of our readers may have already tried these modes of securing wheat, but others, in some parts of the country, have not known them, and it is for the benefit of the latter that we have pointed them out.

Money.—If you would know the value of money, go and try to borrow some.

8th Month. AUGUST, 1851. 31 Days.

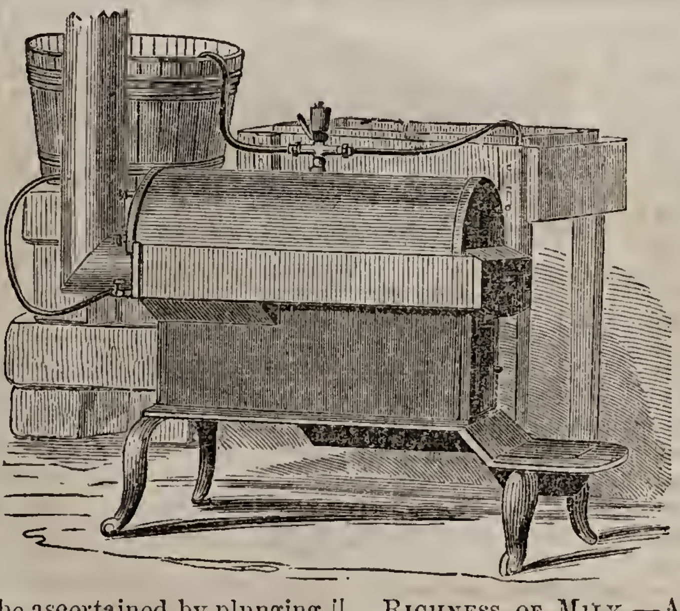
MOON'S PHASES.	BOSTON. D. H. M.	NEW-YORK. H. M.	BALTIMORE. H. M.	CHARLESTON. H. M.	SUN ON MERIDIAN. D. H. M. S.
New Moon, ...	4 0 23 mo.	0 11 mo.	12 0 ev.	11 47 ev.	1 0 6 3
First Quarter,.	11 4 59 ev.	4 47 ev.	4 36 ev.	4 23 ev.	9 0 5 16
Full Moon,....	19 8 14 ev.	8 2 ev.	7 51 ev.	7 38 ev.	17 0 53 5
Third Quarter,	26 5 36 ev.	5 24 ev.	5 13 ev.	5 0 ev.	25 0 1 56

Take great pains to procure the cleanest seed wheat, carefully avoiding the seeds of cockle and chess. Corn sown for fodder should be cut as soon as the leaves first turn brown—dry it thoroughly, salt it well, and ventilate the centre of the stack with rails, set upright.

				CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, PennsylPa, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
Day of Month.	Day of Week.	Moon's Place.	Sun's declina'n N.	Sun rises.	Sun sets.	Moon sets.	H. W. Bost'n	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
	-	♎	° ′ ″	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Friday....	♎	18 4 41	4 53	7 18	10 9	1 43	4 57	7 14	10 9	11 31	5 1	7 11	10 9	5 15	6 57	10 9	10 31
2	Saturday..	♏	17 49 27	4 54	7 17	10 39	2 31	4 58	7 13	10 41	morn	5 1	7 10	10 42	5 15	6 56	10 46	11 18
3	E	♏	17 33 57	4 55	7 16	11 10	3 18	4 59	7 12	11 13	0 18	5 2	7 9	11 14	5 16	6 55	11 23	morn
4	Monday ...	♐	17 18 10	4 56	7 15	11 44	4 9	5 0	7 11	11 47	1 9	5 3	7 8	11 49	5 17	6 55	morn	0 9
5	Tuesday ..	♐	17 2 6	4 57	7 13	morn	5 1	5 1	7 10	morn	2 1	5 4	7 7	morn	5 17	6 54	0 1	1 1
6	Wednesday	♐	16 45 45	4 58	7 12	0 20	6 0	5 2	7 8	0 25	3 0	5 5	7 6	0 27	5 18	6 53	0 42	2 0
7	Thursday .	♑	16 29 9	4 59	7 11	1 1	7 13	5 3	7 7	1 6	4 13	5 6	7 4	1 9	5 19	6 52	1 27	3 13
8	Friday....	♑	16 12 16	5 0	7 10	1 47	8 27	5 4	7 6	1 53	5 27	5 7	7 3	1 55	5 19	6 51	2 15	4 27
9	Saturday..	♒	15 55 8	5 1	7 8	2 38	9 39	5 5	7 5	2 44	6 39	5 8	7 2	2 46	5 20	6 50	3 6	5 39
10	E	♒	15 37 44	5 2	7 7	3 32	10 34	5 6	7 4	3 38	7 34	5 9	7 1	3 41	5 21	6 49	4 0	6 34
11	Monday ...	♒	15 20 6	5 3	7 6	rises	11 20	5 7	7 2	rises	8 20	5 10	7 0	rises	5 21	6 48	rises	7 20
12	Tuesday ..	♒	15 2 12	5 4	7 4	7 50	11 57	5 8	7 1	7 47	8 57	5 11	6 58	7 46	5 22	6 47	7 35	7 57
13	Wednesday	♓	14 44 5	5 6	7 3	8 18	ev 34	5 9	7 0	8 16	9 34	5 12	6 57	8 16	5 23	6 46	8 7	8 34
14	Thursday .	♓	14 25 43	5 7	7 2	8 44	1 7	5 10	6 58	8 43	10 7	5 12	6 56	8 43	5 23	6 45	8 38	9 7
15	Friday....	♈	14 7 8	5 8	7 0	9 9	1 36	5 11	6 57	9 9	10 36	5 13	6 55	9 9	5 24	6 44	9 8	9 36
16	Saturday..	♈	13 48 19	5 9	6 59	9 34	2 9	5 12	6 56	9 35	11 9	5 14	6 53	9 35	5 25	6 43	9 37	10 9
17	E	♈	13 29 16	5 10	6 57	9 59	2 41	5 13	6 54	10 1	11 41	5 15	6 52	10 2	5 25	6 42	10 8	10 41
18	Monday ...	♉	13 10 2	5 11	6 56	10 27	3 13	5 14	6 53	10 30	ev 13	5 16	6 51	10 32	5 26	6 41	10 41	11 13
19	Tuesday ..	♉	12 50 33	5 12	6 54	10 59	3 52	5 15	6 51	11 3	0 52	5 17	6 49	11 5	5 27	6 40	11 17	11 52
20	Wednesday	♊	12 30 53	5 13	6 53	11 36	4 33	5 16	6 50	11 41	1 33	5 18	6 48	11 43	5 27	6 39	11 59	ev 33
21	Thursday .	♊	12 11 1	5 14	6 51	morn	5 28	5 17	6 48	morn	2 28	5 19	6 46	morn	5 28	6 37	morn	1 28
22	Friday....	♋	11 50 56	5 15	6 50	0 19	6 42	5 18	6 47	0 25	3 42	5 20	6 45	0 27	5 29	6 36	0 46	2 42
23	Saturday..	♋	11 30 42	5 16	6 48	1 12	8 0	5 19	6 46	1 18	5 0	5 21	6 44	1 21	5 29	6 35	1 40	4 0
24	E	♋	11 10 16	5 17	6 47	2 14	9 16	5 20	6 44	2 20	6 16	5 22	6 42	2 22	5 30	6 34	2 42	5 16
25	Monday ...	♌	10 49 39	5 18	6 45	3 24	10 15	5 21	6 43	3 29	7 15	5 23	6 41	3 31	5 31	6 33	3 49	6 15
26	Tuesday ..	♌	10 28 52	5 19	6 43	sets	11 10	5 22	6 41	sets	8 10	5 24	6 39	sets	5 31	6 31	sets	7 10
27	Wednesday	♍	10 7 54	5 20	6 42	7 33	11 57	5 23	6 39	7 31	8 57	5 24	6 38	7 31	5 32	6 30	7 25	7 57
28	Thursday .	♍	9 46 47	5 21	6 40	8 6	morn	5 24	6 38	8 6	9 41	5 25	6 36	8 6	5 33	6 29	8 5	8 41
29	Friday....	♎	9 25 31	5 22	6 38	8 38	0 41	5 25	6 36	8 39	10 26	5 26	6 35	8 40	5 33	6 28	8 43	9 26
30	Saturday..	♎	9 4 5	5 24	6 37	9 10	1 26	5 26	6 35	9 12	11 11	5 27	6 33	9 14	5 34	6 27	9 21	10 11
31	E	♏	8 42 31	5 25	6 35	9 43	2 11	5 27	6 33	9 47	11 54	5 28	6 32	9 50	5 35	6 25	10 0	10 54

DAIRY STEAMER.

The annexed cut represents an apparatus extensively used in Herkimer and Oneida counties, N. Y., for the purpose of heating milk, in the manufacture of cheese. It was invented by G. Farmer, Herkimer, Herkimer county, N. Y. It consists of a boiler for the generation of steam, attached to a stove or furnace. A pipe is attached to the boiler for conveying the steam to the vessel where the milk is heated. The milk is contained in a tin vessel, and this vessel is placed in a wooden vat, of such dimensions as to leave a space of two inches at the bottom, sides, and ends.—This space is filled with water. When the milk is heated for the application of rennet, the steam-pipe is let into the water, and the steam let on and continued till the milk is warmed to the required degree, which should be ascertained by plunging a thermometer into it. Dairymen are not exactly agreed as to the degree of heat to which milk should be raised: but none recommend less than 82°, or more than 90°.



One great advantage of this process is, that the heat is equally diffused through the whole mass, without any portion of it being exposed to an excessive degree. The size of the tin vat for containing the milk has been given as follows: For a dairy of 30 cows, 2½ feet wide, 6 feet long, and 19 inches deep The night milk is strained into the tin vat, which is surrounded with cold water, in order to keep it properly cool till next morning, when the morning milk is added, and the water heated by steam, for "running up" the curd. A branch of the steam pipe is connected with a tub or vat for heating water for washing utensils, &c., used in the dairy. It is best to fill the vat with water, as it is found that the larger the quantity of water, the more equally the milk is heated.

Richness of Milk.—An experienced farmer says: "I find by churning the milk separate, that one of my best cows will make as much butter as three of my poorest cows, giving the same quantity of milk."

9th MONTH. SEPTEMBER, 1851. 30 Days.

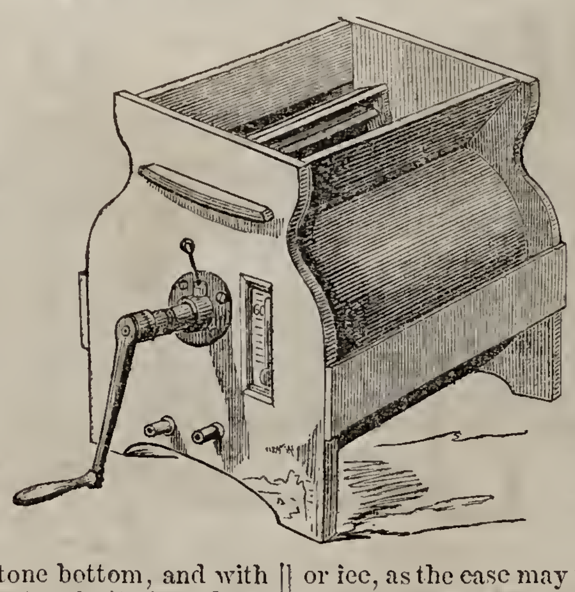
MOON'S PHASES.	BOSTON.	NEW-YORK.	BALTIMORE.	CHARLESTON	SUN ON MERIDIAN.
	D. H. M.	H. M.	H. M.	H. M.	D. H. M. S.
First Quarter,.	2 9 9 mo.	8 57 mo.	8 46 mo.	8 33 mo.	1 morning.
Full Moon,....	10 9 0 mo.	8 48 mo.	8 37 mo.	8 24 mo.	9 11 57 18
Third Quarter,	18 8 45 mo.	8 33 mo.	8 22 mo.	8 9 mo.	17 11 54 30
New Moon, ...	25 1 28 mo.	1 16 mo.	1 5 mo.	0 52 mo.	25 11 51 43

Put land in the best condition before sowing wheat—manure will do well and much improve the crop, if it is well pulverized and thoroughly intermixed with the soil, by repeated plowings and many harrowings.—Cut up corn at the roots, as soon as the husks and leaves turn brown.

				CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
Day of Month.	Day of Week.	Sun's declina'n N.	Moon's Place.	Sun rises.	Sun sets.	Moon sets.	H. W. Bos'n.	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″	♏	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Monday ..	8 20 49	♐	5 26	6 33	10 19	2 54	5 28	6 32	10 24	morn	5 29	6 30	10 28	5 35	6 24	10 41	11 38
2	Tuesday ..	7 58 59	♐	5 27	6 32	11 0	3 38	5 29	6 30	11 5	0 38	5 30	6 29	11 9	5 36	6 23	11 25	morn
3	Wednesday	7 37 0	♑	5 28	6 30	11 44	4 27	5 30	6 28	11 50	1 27	5 31	6 27	11 55	5 37	6 21	morn	0 27
4	Thursday .	7 14 55	♑	5 29	6 28	morn	5 24	5 31	6 27	morn	2 24	5 32	6 26	morn	5 37	6 20	0 12	1 24
5	Friday	6 52 43	♒	5 30	6 27	0 34	6 41	5 31	6 25	0 40	3 41	5 33	6 24	0 44	5 38	6 19	1 2	2 41
6	Saturday..	6 30 24	♒	5 31	6 25	1 27	8 4	5 32	6 24	1 33	5 4	5 34	6 22	1 38	5 39	6 18	1 55	4 4
7	S	6 7 59	♒	5 32	6 23	2 24	9 21	5 33	6 22	2 29	6 21	5 35	6 21	2 33	5 39	6 16	2 49	5 21
8	Monday ...	5 45 28	♓	5 33	6 22	3 22	10 18	5 34	6 20	3 27	7 18	5 35	6 19	3 31	5 40	6 15	3 44	6 18
9	Tuesday ..	5 22 50	♓	5 34	6 20	4 21	11 1	5 35	6 19	4 25	8 1	5 36	6 18	4 28	5 40	6 14	4 39	7 1
10	Wednesday	5 0 7	♈	5 35	6 18	rises	11 39	5 36	6 17	rises	8 39	5 37	6 16	rises	5 41	6 12	rises	7 39
11	Thursday .	4 37 20	♈	5 36	6 16	7 13	ev 10	5 37	6 15	7 13	9 10	5 38	6 14	7 13	5 42	6 11	7 10	8 10
12	Friday	4 14 28	♈	5 37	6 15	7 38	0 40	5 38	6 14	7 38	9 40	5 39	6 13	7 39	5 42	6 10	7 40	8 40
13	Saturday..	3 51 31	♉	5 38	6 13	8 3	1 9	5 39	6 12	8 4	10 9	5 40	6 11	8 6	5 43	6 8	8 10	9 9
14	S	3 28 30	♉	5 39	6 11	8 29	1 40	5 40	6 10	8 32	10 40	5 41	6 10	8 34	5 44	6 7	8 42	9 40
15	Monday ...	3 5 25		5 40	6 9	8 59	2 8	5 41	6 9	9 3	11 8	5 42	6 8	9 6	5 44	6 6	9 16	10 8
16	Tuesday ..	2 42 16	♊	5 41	6 8	9 33	2 39	5 42	6 7	9 38	11 39	5 43	6 6	9 41	5 45	6 4	9 55	10 39
17	Wednesday	2 19 5	♊	5 42	6 6	10 13	3 15	5 43	6 5	10 18	ev 15	5 44	6 5	10 22	5 46	6 3	10 38	11 15
18	Thursday .	1 55 50	♊	5 44	6 4	11 0	3 56	5 44	6 4	11 6	0 56	5 44	6 3	11 11	5 46	6 2	11 28	11 56
19	Friday	1 32 33	♋	5 45	6 2	11 56	4 49	5 45	6 2	morn	1 49	5 45	6 2	morn	5 47	6 0	morn	ev 49
20	Saturday..	1 9 13	♋	5 46	6 1	morn	6 5	5 46	6 0	0 2	3 5	5 46	6 0	0 7	5 48	5 59	0 25	2 5
21	S	0 45 52	♌	5 47	5 59	1 1	7 35	5 47	5 59	1 6	4 35	5 47	5 58	1 11	5 48	5 58	1 27	3 35
22	Monday ...	N 22 28	♌	5 48	5 57	2 12	9 0	5 48	5 57	2 17	6 0	5 48	5 57	2 20	5 49	5 56	2 35	5 0
23	Tuesday ..	S 0 56	♍	5 49	5 55	3 27	10 0	5 49	5 55	3 31	7 0	5 49	5 55	3 34	5 50	5 55	3 45	6 0
24	Wednesday	0 24 21	♍	5 50	5 53	sets	10 52	5 50	5 53	sets	7 52	5 50	5 53	sets	5 50	5 53	sets	6 52
25	Thursday .	0 47 46	♎	5 51	5 52	6 33	11 36	5 51	5 52	6 34	8 36	5 51	5 52	6 34	5 51	5 52	6 35	7 36
26	Friday	1 11 12	♎	5 52	5 50	7 6	morn	5 52	5 50	7 7	9 20	5 52	5 50	7 9	5 52	5 51	7 13	8 20
27	Saturday..	1 34 38	♏	5 53	5 48	7 39	0 20	5 53	5 48	7 42	10 4	5 53	5 49	7 45	5 52	5 49	7 53	9 4
28	S	1 58 2	♏	5 54	5 46	8 15	1 4	5 54	5 47	8 19	10 46	5 54	5 47	8 23	5 53	5 48	8 35	9 46
29	Monday ...	2 21 25	♐	5 56	5 41	8 55	1 46	5 55	5 45	9 0	11 27	5 55	5 45	9 4	5 54	5 47	9 19	10 27
30	Tuesday ..	2 44 48	♐	5 57	5 43	9 39	2 27	5 56	5 43	9 44	morn	5 56	5 44	9 49	5 54	5 45	10 6	11 8

BUTTER MAKING.

There is about as much difference between good and bad butter, as there is between nectar and lamp oil. Sweet-flavored golden rolls on one hand, and the quintessence of rancidity on the other, are enough to convince any one that there is a good and a bad way of making it. The first and last requisite is to keep every thing *clean* and as pure as cleansing can make them. Even the cows must be kept in a clean pasture, with sweet feed and pure water. Every vessel should be thoroughly purified the moment it is out of use. We always notice a glittering row of polished tin pans, placed out in the open air, by one of our near neighbors, who is an excellent butter maker.



The chief points, besides cleanliness, in making good butter, are these: To milk at regular hours; to place the milk in shallow vessels; to have a perfectly clean cellar, with a hard brick or flag stone bottom, and with shutters and wire screen windows, to admit air and exclude insects; to skim the milk the moment it coagulates or "lobbers," which will be in 30 to 48 hours; to churn the cream at a temperature between 60 and 65° by the thermometer; to free the butter as much as possible from buttermilk, and then add a sixteenth part of the purest salt; to work out the remaining buttermilk in 12 hours afterwards, and again in 24 hours, being careful not to work it too much at a time; to pack it closely in stone jars, till nearly full, and then spread clean white muslin cloth over the top, pack closely a layer of one inch of fine salt upon the muslin, and finally cover the jar with a neatly fitting tin cover. This is, substantially, the process of most of the best butter makers. Butter thus made will keep a year, if placed on the bottom of a cool cellar.

A very important part of churning, is to preserve the cream at the right temperature during the whole process. Persons of skill and experience will do this tolerably well, by setting the cream vessel into warm or cold water, or ice, as the case may require; but the simplest way is to use a THERMOMETER CHURN, a figure of which we here give. By means of a thermomer attached to the churn, the temperature is regulated with precision, by pouring warm or cold water into a space next to the cream.

10th Month. **OCTOBER, 1851.** **31 Days.**

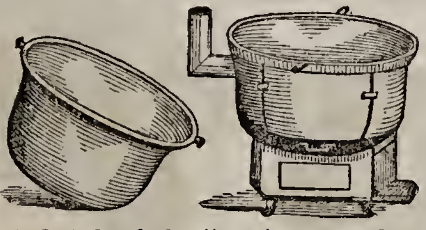
MOON'S PHASES.	BOSTON. D. H. M.	NEW-YORK. H. M.	BALTIMORE. H. M.	CHARLESTON. H. M.	SUN ON MERIDIAN. D. H. M. S.
First Quarter,.	1 9 46 ev.	9 34 ev.	9 23 ev.	9 10 ev.	1 11 49 44
Full Moon, ...	10 1 49 mo.	1 37 mo.	1 26 mo.	1 13 mo.	9 11 47 22
Third Quarter,	17 7 29 ev.	7 17 ev.	7 6 ev.	6 53 ev.	17 11 45 28
New Moon, ...	24 10 26 mo.	10 14 mo.	10 3 mo.	9 50 mo.	25 11 44 13
First Quarter,.	31 2 34 ev.	2 22 ev.	2 11 ev.	1 58 ev.	....

Husk corn—see that the stalks are well secured from wet—apply salt in stacking them. Dig potatoes—and to prevent their rotting, let them be dry, clean, and kept in a cool place. Gather winter apples—let them all be carefully hand-picked, using light and convenient ladders, and avoid bruising the tree.

Day of Month.	Day of Week.	Sun's declin'n N.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon sets.	H. W. Bost'n	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″	♑	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Wednesday	3 8 9	♑	5 58	5 41	10 27	3 8	5 57	5 42	10 34	0 8	5 57	5 42	10 38	5 55	5 44	10 56	11 55
2	Thursday .	3 31 27	♑	5 59	5 39	11 21	3 55	5 58	5 40	11 27	0 55	5 58	5 40	11 31	5 56	5 43	11 49	morn
3	Friday....	3 54 44	♒	6 0	5 37	morn	4 53	5 59	5 38	morn	1 53	5 59	5 39	morn	5 56	5 41	morn	0 53
4	Saturday..	4 17 57	♒	6 1	5 36	0 17	6 11	6 0	5 37	0 23	3 11	6 0	5 37	0 27	5 57	5 40	0 44	2 11
5	E	4 41 8	♓	6 2	5 34	1 15	7 37	6 1	5 35	1 20	4 37	6 1	5 36	1 24	5 58	5 39	1 38	3 37
6	Monday ...	5 4 14	♓	6 3	5 32	2 14	8 56	6 2	5 33	2 18	5 56	6 2	5 34	2 21	5 58	5 38	2 33	4 56
7	Tuesday ..	5 27 16	♓	6 5	5 31	3 13	9 55	6 4	5 32	3 16	6 55	6 3	5 33	3 19	5 59	5 36	3 27	5 55
8	Wednesday	5 50 15	♈	6 6	5 29	4 12	10 34	6 5	5 30	4 14	7 34	6 4	5 31	4 16	6 0	5 35	4 21	6 34
9	Thursday .	6 13 8	♈	6 7	5 27	rises	11 10	6 6	5 29	rises	8 10	6 5	5 29	rises	6 1	5 34	rises	7 10
10	Friday....	6 35 57	♉	6 8	5 26	6 7	11 39	6 7	5 27	6 8	8 38	6 6	5 28	6 9	6 1	5 32	6 12	7 38
11	Saturday..	6 58 41	♉	6 9	5 24	6 33	ev 8	6 8	5 25	6 35	9 8	6 7	5 26	6 37	6 2	5 31	6 43	8 8
12	E	7 21 19	♉	6 10	5 22	7 1	0 38	6 9	5 24	7 5	9 38	6 8	5 25	7 7	6 3	5 30	7 17	8 38
13	Monday ...	7 43 50	♊	6 11	5 21	7 33	1 9	6 10	5 22	7 38	10 9	6 9	5 23	7 41	6 4	5 29	7 54	9 9
14	Tuesday ..	8 6 16	♊	6 13	5 19	8 11	1 40	6 11	5 21	8 16	10 40	6 10	5 22	8 20	6 4	5 28	8 35	9 40
15	Wednesday	8 28 35	♋	6 14	5 17	8 55	2 12	6 12	5 19	9 1	11 12	6 11	5 20	9 5	6 5	5 26	9 23	10 12
16	Thursday .	8 50 47	♋	6 15	5 16	9 47	2 48	6 13	5 18	9 53	11 48	6 12	5 19	9 58	6 6	5 25	10 16	10 48
17	Friday....	9 12 52	♌	6 16	5 14	10 46	3 32	6 14	5 16	10 52	ev 32	6 13	5 18	10 57	6 7	5 24	11 14	11 32
18	Saturday..	9 34 48	♌	6 17	5 13	11 53	4 27	6 15	5 15	11 58	1 27	6 14	5 16	morn	6 7	5 23	morn	ev 27
19	E	9 56 36		6 19	5 11	morn	5 43	6 17	5 13	morn	2 43	6 15	5 15	0 2	6 8	5 22	0 18	1 43
20	Monday ...	10 18 15	♍	6 20	5 9	1 4	7 16	6 18	5 12	1 8	4 16	6 16	5 13	1 12	6 9	5 21	1 25	3 16
21	Tuesday ..	10 39 47	♍	6 21	5 8	2 18	8 41	6 19	5 10	2 21	5 41	6 17	5 12	2 24	6 10	5 19	2 33	4 41
22	Wednesday	11 1 8	♎	6 22	5 6	3 34	9 40	6 20	5 9	3 36	6 40	6 18	5 11	3 37	6 11	5 18	3 42	5 40
23	Thursday .	11 22 19	♎	6 23	5 5	4 50	10 29	6 21	5 7	4 51	7 29	6 19	5 9	4 51	6 11	5 17	4 52	6 29
24	Friday....	11 43 20	♏	6 25	5 3	sets	11 13	6 22	5 6	sets	8 13	6 20	5 8	sets	6 12	5 16	sets	7 13
25	Saturday..	12 4 11	♏	6 26	5 2	6 7	11 57	6 23	5 5	6 11	8 57	6 21	5 6	6 14	6 13	5 15	6 24	7 57
26	E	12 24 50	♐	6 27	5 0	6 46	morn	6 24	5 3	6 50	9 41	6 22	5 5	6 54	6 14	5 14	7 8	8 41
27	Monday ...	12 45 18	♐	6 28	4 59	7 29	0 41	6 26	5 2	7 34	10 21	6 24	5 4	7 39	6 15	5 13	7 55	9 21
28	Tuesday ..	13 5 34	♐	6 30	4 58	8 17	1 21	6 27	5 0	8 23	11 2	6 25	5 3	8 28	6 15	5 12	8 46	10 2
29	Wednesday	13 25 38	♑	6 31	4 56	9 10	2 2	6 28	4 59	9 16	11 44	6 26	5 1	9 21	6 16	5 11	9 39	10 44
30	Thursday .	13 45 29	♑	6 32	4 55	10 7	2 44	6 29	4 58	10 13	morn	6 27	5 0	10 17	6 17	5 10	10 35	11 29
31	Friday....	14 5 6	♒	6 33	4 54	11 5	3 29	6 30	4 57	11 11	0 29	6 28	4 59	11 15	6 18	5 9	11 30	morn

COOKING FOOD FOR ANIMALS.

In fattening swine, a great advantage has resulted in giving them cooked food. Some of the best and most accurate farmers of our acquaintance, have found that corn ground and cooked is so much better digested and assimilated by their hogs, that one bushel of cooked corn is worth as much as two and a half bushels fed unground or in the ear. The trouble and expense of cooking cannot be equal to one half of this waste; every farmer, therefore, who feeds out 500 bushels of corn in the ear, actually throws away about 200 bushels, which may be equal to the whole amount of what would otherwise be his clear profits in pork making.



One of the best things in the world for cooking food, is Mott's Agricultural Furnace, represented in the annexed wood cut. It is wholly of cast iron, the stove and boiler being connected together, and the whole being quite portable. The fire passes up around the boiler, through a thin space surrounding its entire outer surface; and a very small quantity of wood will heat a large body of water. A man may easily carry in his arms enough wood to boil two barrels of water. We have found it to need only *a third* of the fuel formerly required for a kettle set in a common brick "arch."

The same advantages do not pertain to cooking for *cattle*, except to soften and improve some hard kinds of food. One of the best farmers in the country pursues the following practice: The chaff is stowed away in bins, to be mixed in winter with cut straw and cornstalks. This mixture is placed in large barrels in the barn cellar, and hot water, from one of Mott's Furnaces, poured in to moisten the whole. The barrels are instantly covered, and in a few hours the chaff and cut feed are well cooked, and are eaten with great avidity by the cattle before it is yet cold.

A great advantage resulting from this mode of feeding is, that the manure from the stalks and coarse feed is always *short*, and quickly intermixes and is decomposed.

◆

Feeding Cattle in Winter.—The American Farmer says, "A neighbor of ours had an oblong tight box made, with a top—he filled this box with cut stalks, poured over them a pot of boiling water, shut down the lid and put a weight upon it, and thus cooked them with the steam. By the time the water became milk-warm, the stalks were sufficiently cooked. For his milch cows, he had bran or mill feed mixed; and they were always in a thriving condition."

If you would have your business done, go; if not, send.
The sleeping fox catches no poultry.

11th MONTH. NOVEMBER, 1851. 30 Days.

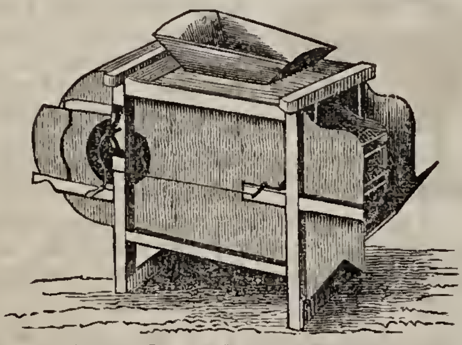
MOON'S PHASES.	BOSTON. D. H. M.	NEW-YORK. H. M.	BALTIMORE. H. M.	CHARLESTON. H. M.	SUN ON MERIDIAN. D. H. M. S.
New Moon, ...	8 6 37 ev.	6 25 ev.	6 14 ev.	6 1 ev.	1 11 43 44
First Quarter,.	16 4 38 mo.	4 26 mo.	4 15 mo.	4 2 mo.	9 11 43 59
Full Moon,....	22 9 22 ev.	9 10 ev.	8 59 ev.	8 46 ev.	17 11 45 7
Third Quarter,	30 10 43 mo.	10 31 mo.	10 20 mo.	10 7 mo.	25 11 47 9

Secure remaining crops—ruta bagas, carrots, &c., as speedily as possible—when buried in heaps, ventilate all roots, by small holes in the top of the heap, till freezing weather. Ruta bagas will invariably spoil unless thus secured, and potatoes often.

Day of Month.	Day of Week.	Sun's declina'n N.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon sets.	H. W. Bos'n.	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″	♒	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Saturday..	14 24 30	♓	6 35	4 52	morn	4 22	6 32	4 55	morn	1 22	6 29	4 58	morn	6 19	5 8	morn	0 22
2	E	14 43 40	♓	6 36	4 51	0 5	5 31	6 33	4 54	0 9	2 31	6 30	4 57	0 13	6 20	5 7	0 26	1 31
3	Monday ..	15 2 36	♓	6 37	4 50	1 4	6 56	6 34	4 53	1 8	3 56	6 31	4 55	1 10	6 21	5 6	1 20	2 56
4	Tuesday ..	15 21 17	♈	6 38	4 48	2 3	8 14	6 35	4 52	2 6	5 14	6 33	4 54	2 7	6 22	5 6	2 14	4 14
5	Wednesday	15 39 42	♈	6 40	4 47	3 2	9 18	6 36	4 51	3 3	6 18	6 34	4 53	3 5	6 22	5 5	3 8	5 18
6	Thursday .	15 57 52	♉	6 41	4 46	4 1	10 0	6 38	4 50	4 1	7 0	6 35	4 52	4 2	6 23	5 4	4 2	6 0
7	Friday	16 15 45	♉	6 42	4 45	5 1	10 35	6 39	4 48	5 0	7 35	6 36	4 51	5 0	6 24	5 3	4 56	6 35
8	Saturday..	16 33 23	♉	6 44	4 44	rises	11 8	6 40	4 47	rises	8 8	6 37	4 50	rises	6 25	5 2	rises	7 8
9	E	16 50 44	♊	6 45	4 43	5 35	11 39	6 41	4 46	5 39	8 39	6 38	4 49	5 42	6 26	5 2	5 54	7 39
10	Monday ...	17 7 47	♊	6 46	4 42	6 10	ev 13	6 42	4 45	6 15	9 13	6 39	4 48	6 19	6 27	5 1	6 34	8 13
11	Tuesday ..	17 24 33	♋	6 47	4 41	6 53	0 45	6 44	4 44	6 58	9 45	6 41	4 47	7 3	6 28	5 0	7 20	8 45
12	Wednesday	17 41 1	♋	6 49	4 40	7 42	1 17	6 45	4 43	7 48	10 17	6 42	4 46	7 53	6 29	4 59	8 11	9 17
13	Thursday .	17 57 11	♌	6 50	4 39	8 39	1 52	6 46	4 42	8 45	10 52	6 43	4 46	8 50	6 30	4 59	9 8	9 52
14	Friday	18 13 1	♌	6 51	4 38	9 43	2 33	6 47	4 42	9 48	11 33	6 44	4 45	9 53	6 31	4 58	10 9	10 33
15	Saturday..	18 28 33	♌	6 52	4 37	10 51	3 21	6 48	4 41	10 56	ev 21	6 45	4 44	11 0	6 32	4 58	11 14	11 21
16	E	18 43 45	♌	6 54	4 36	morn	4 17	6 50	4 40	morn	1 17	6 46	4 43	morn	6 32	4 57	morn	ev 17
17	Monday ...	18 58 38	♍	6 55	4 35	0 2	5 27	6 51	4 39	0 6	2 27	6 48	4 42	0 9	6 33	4 57	0 20	1 27
18	Tuesday ..	19 13 10	♍	6 56	4 34	1 15	6 54	6 52	4 38	1 17	3 54	6 49	4 42	1 19	6 34	4 56	1 26	2 54
19	Wednesday	19 27 21	♎	6 57	4 33	2 28	8 12	6 53	4 38	2 30	5 12	6 50	4 41	2 30	6 35	4 56	2 33	4 12
20	Thursday .	19 41 12	♎	6 59	4 32	3 42	9 14	6 54	4 37	3 42	6 14	6 51	4 40	3 42	6 36	4 55	3 40	5 14
21	Friday	19 54 40	♏	7 0	4 32	4 56	10 5	6 55	4 36	4 55	7 5	6 52	4 40	4 54	6 37	4 55	4 48	6 5
22	Saturday..	20 7 48	♏	7 1	4 31	sets	10 53	6 57	4 36	sets	7 53	6 53	4 39	sets	6 38	4 54	sets	6 53
23	E	20 20 33	♐	7 2	4 30	5 18	11 38	6 58	4 35	5 23	8 38	6 54	4 38	5 27	6 39	4 54	5 42	7 38
24	Monday ...	20 32 56	♐	7 4	4 30	6 3	morn	6 59	4 34	6 9	9 20	6 55	4 38	6 14	6 40	4 54	6 32	8 20
25	Tuesday ..	20 44 55	♑	7 5	4 29	6 55	0 20	7 0	4 34	7 2	10 1	6 56	4 37	7 6	6 41	4 53	7 25	9 1
26	Wednesday	20 56 32	♑	7 6	4 29	7 52	1 1	7 1	4 33	7 58	10 43	6 58	4 37	8 3	6 42	4 53	8 21	9 43
27	Thursday .	21 7 44	♒	7 7	4 28	8 51	1 43	7 2	4 33	8 57	11 25	6 59	4 37	9 1	6 43	4 53	9 18	10 25
28	Friday	21 18 34	♒	7 8	4 28	9 52	2 25	7 3	4 32	9 57	morn	7 0	4 36	10 0	6 43	4 53	10 15	11 8
29	Saturday..	21 28 58	♒	7 9	4 27	10 52	3 8	7 4	4 32	10 56	0 8	7 1	4 36	10 59	6 44	4 52	11 11	11 55
30	E	21 38 58	♓	7 11	4 27	11 52	3 55	7 6	4 32	11 55	0 55	7 2	4 36	11 57	6 45	4 52	morn	morn

GRANT'S FANNING MILL.

Old farmers will recollect the mode of freeing grain from the chaff before the fanning mill was introduced, by shaking it through a coarse sieve on a windy day. Great as was the improvement by the use of the fanning mill, the after improvements of this machine have been, perhaps, as much greater. Grant's mill, probably the best now in use, and which has, we believe, received the premium at every agricultural fair where it has been exhibited, will chaff and screen one bushel of wheat per minute, taking out the chess, cockle, and smut, at one operation. Some have stated that by its use, they have saved enough timothy seed in one season to pay for the mill. It is adapted to cleaning wheat, rye, buckwheat, oats, barley, rice, corn, peas, beans, flax seed, timothy and clover seed. The price is from $21 to $27.

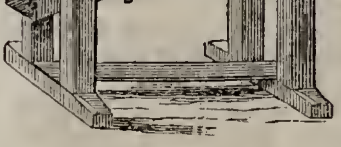


◆

Milking.—See that cows are milked very clean; more so than most boys and hired men can be coaxed or compelled to do it.

CLINTON CORN SHELLER.

This machine has been in use for more than ten years, and is one of the very best sorts. With two men, two hundred bushels of ears may be shelled in a day, or with a double hopper, so as to shell two ears at a time, double that amount may be done by three men—quite an improvement over the old mode, yet in use in many places, of thumping out the cobs by the tedious process of hand flails. The price of this sheller is from ten to thirteen dollars.—How much will be saved by it, every farmer can easily estimate after he has tried it.



Enriching Farming.—Some of the best farmers have learned that the most profitable farming is that which increases the fertility of their land. Instead of raising chiefly grain to sell, they manufacture manure largely. One of the best farmers in Seneca county, N. Y., says on this subject, "I have been changing my system of farming altogether, by raising great crops of corn and fattening cattle in winter; have fatted 83 head since fall, all steers, and have sold sixty, from $50 to $55 per head, and have 23 yet on hand. I intend to plant 40 acres of corn next season."

12th Month. DECEMBER, 1851. 31 Days.

MOON'S PHASES.	BOSTON.	NEW-YORK.	BALTIMORE.	CHARLESTON.	SUN ON MERIDIAN.
	D. H. M.	H. M.	H. M.	H. M.	D. H. M. S.
Full Moon,....	8 10 43 mo.	10 31 mo.	10 20 mo.	10 7 mo.	1 11 49 12
Third Quarter,	15 0 42 ev.	0 30 ev.	0 19 ev.	0 6 ev.	9 11 52 31
New Moon, ...	22 10 50 mo.	10 38 mo.	10 27 mo.	10 14 mo.	17 11 56 18
First Quarter,.	30 8 31 mo.	8 19 mo.	8 8 mo.	7 55 mo.	25 ev 0 17

Commence winter with a well digested, regular, neat, and thorough system of wintering domestic animals. Provide feeding racks to save hay—thresh grain early, to elude the rats—draw wood, saw wood—draw muck from drained swamps to spread over barn yards.

Day of Month.	Day of Week.	Sun's declina'n N.	Moon's Place.	CALENDAR For Boston, New-England New-York State, Michigan, Wisconsin, and Iowa.				CALENDAR For New-York City, Philadelphia, Conn., New-Jersey, Pennsyl'a, Ohio, Indiana, and Illinois.				CALENDAR For Baltimore, Virginia, Kentucky, and Missouri.			CALENDAR For Charleston, N. Carolina, Tenn., Georgia, Alabama, Mississippi, and Louisiana.			
				Sun rises.	Sun sets.	Moon sets.	H. W. Bost'n	Sun rises.	Sun sets.	Moon sets.	H. W. N.Y'k	Sun rises.	Sun sets.	Moon sets.	Sun rises.	Sun sets.	Moon sets.	H. W. Ch'ton
		° ′ ″	♓	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H. M.	H.M.	H.M.	H. M.	H.M.	H.M.	H. M.	H. M.
1	Monday ...	21 48 33	♈	7 12	4 26	morn	4 49	7 7	4 31	morn	1 49	7 3	4 35	morn	6 46	4 52	0 5	0 49
2	Tuesday ..	21 57 43	♈	7 13	4 26	0 51	5 55	7 8	4 31	0 53	2 55	7 4	4 35	0 54	6 47	4 52	0 59	1 55
3	Wednesday	22 6 28	♈	7 14	4 26	1 49	7 9	7 9	4 31	1 50	4 9	7 5	4 35	1 51	6 48	4 52	1 52	3 9
4	Thursday .	22 14 46	♉	7 15	4 26	2 49	8 16	7 10	4 31	2 49	5 16	7 6	4 35	2 48	6 49	4 52	2 46	4 16
5	Friday....	22 22 39	♉	7 16	4 25	3 49	9 11	7 11	4 31	3 48	6 11	7 7	4 35	3 47	6 49	4 52	3 42	5 11
6	Saturday..	22 30 6	♊	7 17	4 25	4 51	9 56	7 12	4 31	4 49	6 56	7 8	4 35	4 47	6 50	4 52	4 39	5 56
7	**E**	22 37 6	♊	7 18	4 25	5 55	10 33	7 13	4 30	5 51	7 33	7 9	4 34	5 49	6 51	4 52	5 37	6 33
8	Monday ...	22 43 40	♋	7 19	4 25	rises	11 11	7 13	4 30	rises	8 11	7 9	4 34	rises	6 52	4 52	rises	7 11
9	Tuesday ..	22 49 46	♋	7 20	4 25	5 36	11 49	7 14	4 30	5 42	8 49	7 10	4 35	5 47	6 53	4 52	6 5	7 49
10	Wednesday	22 55 27	♋	7 21	4 25	6 32	ev 26	7 15	4 31	6 38	9 26	7 11	4 35	6 43	6 53	4 52	7 1	8 26
11	Thursday .	23 0 39	♌	7 21	4 25	7 34	1 3	7 16	4 31	7 40	10 3	7 12	4 35	7 45	6 54	4 53	8 2	9 3
12	Friday....	23 5 24	♌	7 22	4 25	8 42	1 44	7 17	4 31	8 48	10 44	7 13	4 35	8 52	6 55	4 53	9 7	9 44
13	Saturday..	23 9 42	♍	7 23	4 25	9 53	2 26	7 18	4 31	9 57	11 26	7 14	4 35	10 1	6 56	4 53	10 12	10 26
14	**E**	23 13 32	♍	7 24	4 26	11 5	3 15	7 18	4 31	11 8	ev 15	7 14	4 35	11 10	6 56	4 53	11 18	11 15
15	Monday ...	23 16 54		7 25	4 26	morn	4 11	7 19	4 31	morn	1 11	7 15	4 35	morn	9 57	4 54	morn	ev 11
16	Tuesday ..	23 19 49	♎	7 25	4 26	0 17	5 13	7 20	4 32	0 18	2 13	7 16	4 36	0 20	6 58	4 54	0 24	1 13
17	Wednesday	23 22 16	♎	7 26	4 26	1 28	6 26	7 21	4 32	1 29	3 26	7 16	4 36	1 29	6 58	4 54	1 29	2 26
18	Thursday .	23 24 14	♏	7 27	4 27	2 40	7 36	7 21	4 32	2 39	4 36	7 17	4 36	2 38	6 59	4 55	2 34	3 36
19	Friday....	23 25 45	♏	7 27	4 27	3 52	8 46	7 22	4 33	3 50	5 46	7 18	4 37	3 48	6 59	4 55	3 40	4 46
20	Saturday..	23 26 46	♐	7 28	4 28	5 3	9 42	7 23	4 33	5 0	6 42	7 18	4 37	4 58	7 0	4 56	4 46	5 42
21	**E**	23 27 21	♐	7 29	4 28	6 13	10 33	7 23	4 34	6 9	7 33	7 19	4 38	6 6	7 0	4 56	5 51	6 33
22	Monday ...	23 27 26	♑	7 29	4 29	sets	11 23	7 24	4 34	sets	8 23	7 19	4 38	sets	7 1	4 57	sets	7 23
23	Tuesday ..	23 27 3	♑	7 30	4 29	5 36	morn	7 24	4 35	5 43	9 8	7 20	4 39	5 48	7 1	4 57	6 6	8 8
24	Wednesday	23 26 12	♑	7 30	4 30	6 35	0 8	7 25	4 35	6 41	9 49	7 20	4 39	6 46	7 2	4 58	7 4	8 49
25	Thursday .	23 24 52	♒	7 30	4 30	7 36	0 49	7 25	4 36	7 41	10 30	7 21	4 40	7 46	7 2	4 58	8 1	9 30
26	Friday....	23 23 6	♒	7 31	4 31	8 38	1 30	7 25	4 36	8 42	11 9	7 21	4 41	8 46	7 3	4 59	8 58	10 9
27	Saturday..	23 20 49	♓	7 31	4 31	9 38	2 9	7 26	4 37	9 42	11 47	7 21	4 41	9 44	7 3	4 59	9 54	10 47
28	**E**	23 18 5	♓	7 31	4 32	10 38	2 47	7 26	4 38	10 40	morn	7 22	4 42	10 42	7 4	5 0	10 48	11 28
29	Monday ...	23 14 52	♓	7 32	4 33	11 37	3 28	7 26	4 38	11 38	0 28	7 22	4 43	11 39	7 4	5 1	11 42	morn
30	Tuesday ..	23 11 13	♈	7 32	4 34	morn	4 10	7 26	4 39	morn	1 10	7 22	4 43	morn	7 4	5 1	morn	0 10
31	Wednesday	23 7 5	♈	7 32	4 35	0 35	4 57	7 27	4 40	0 36	1 57	7 22	4 44	0 36	7 4	5 2	0 35	0 57

SEASONABLE HINTS.

THE work for the past season being now closed, the farmer has a most important part yet to act—that is, preparing for the next. He has worked hard for many months past, and has, perhaps, fine herds of cattle, sheep, swine, &c., to carry through the winter. He has also collected, by hard labor, large stores of provender. Now, in order that this provender may be most economically consumed—and in order that next spring may dawn upon fine, plump, healthy animals—he must see to them himself. " If you would have a faithful and intelligent servant, serve yourself," said Dr. Franklin, and " diligence is the mother of good luck." A rich, thrifty, money-making farmer of our acquaintance, who keeps scores of fine cattle, lays his own hand on the back of every one of them, without missing a day through winter. He knows in a moment by the touch, whether they are well cared for.

Animals, to thrive. to best advantage, must be kept clean, comfortable, and fed with great regularity. Cold, dirt, fretting beyond the regular time for food, suffering for water—all these waste the flesh, and consume the profits.

Dr. Franklin said that " one to-day is worth two to-morrows," and every farmer should do as much as practicable through winter, to save time next summer. He should draw, cut, and house his fire wood; repair tools, oil harness; make feeding racks and boxes for his animals; repair out-buildings; prune orchards; make fruit ladders; and above all, examine the best modes of practice in all the departments of farming—by reading—by ascertaining wherein consisted the success of the best farmers of the country, to enable him to do which, he should not only subscribe for " THE CULTIVATOR," but study each number, as it comes to hand, thoroughly, and he will in this way obtain a vast amount of information, which he will find a source of profit as well as pleasure, through the labors of the year.

Feed all fattening animals with perfect regularity—enough, but not too much.

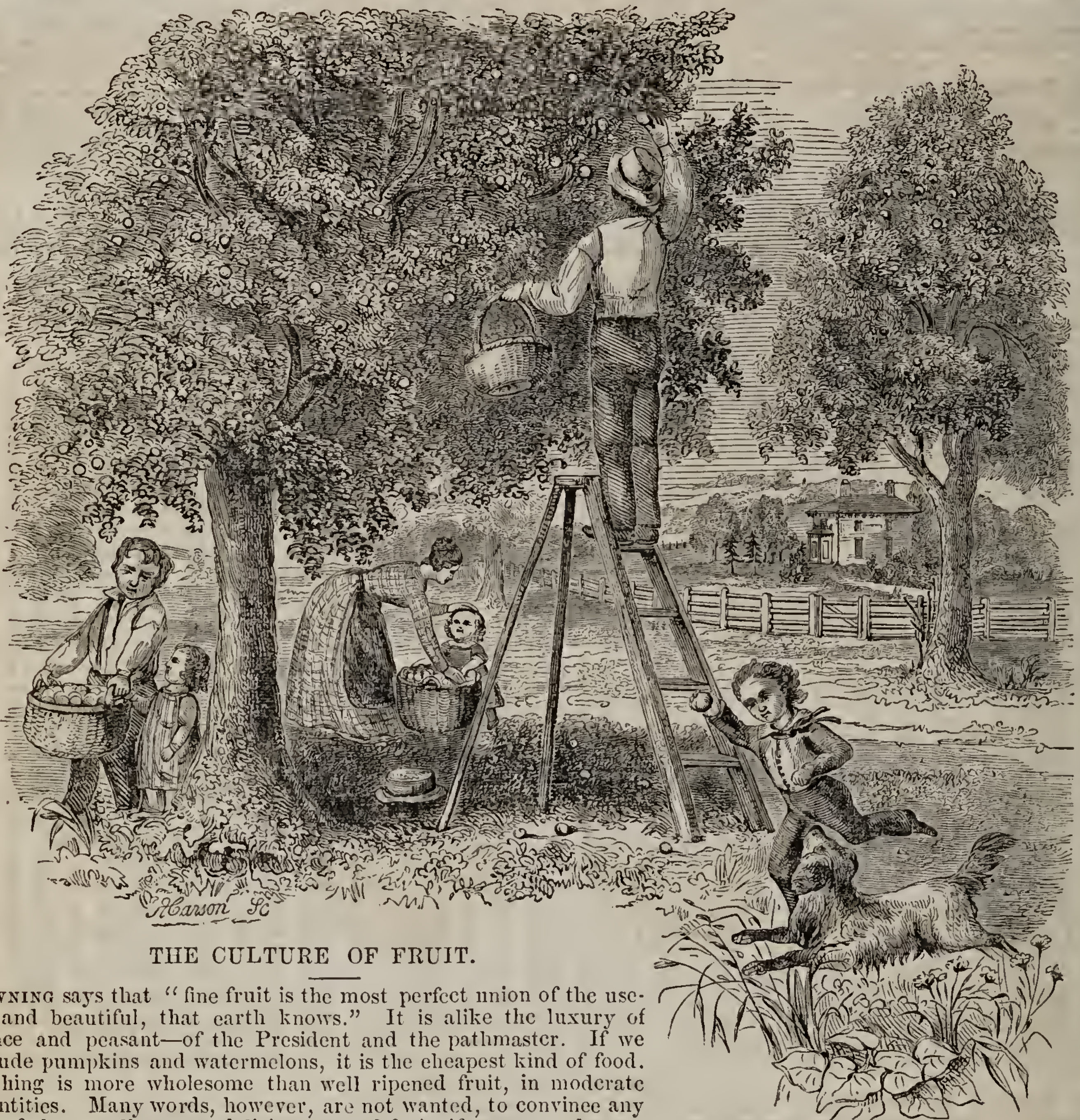
THE CULTIVATOR.

A MONTHLY JOURNAL OF

Agriculture, Horticulture, and Rural Economy.

Single copy, $1—Seven copies for $5—Fifteen for $10.

☞ Every FARMER and GARDENER should order this—the best Agricultural Journal—for the next year. Each number consists of thirty-two pages, of the same size and style as this Almanac. Letters addressed to LUTHER TUCKER, Editor Cultivator, Albany, N. Y., will be promptly attended to.



THE CULTURE OF FRUIT.

Downing says that "fine fruit is the most perfect union of the useful and beautiful, that earth knows." It is alike the luxury of prince and peasant—of the President and the pathmaster. If we include pumpkins and watermelons, it is the cheapest kind of food. Nothing is more wholesome than well ripened fruit, in moderate quantities. Many words, however, are not wanted, to convince any one of the excellence or deliciousness of fruit, if we can only present him a dish of apricots, or a quart of strawberries and cream.

Economy of Fruit.—Every manwho keeps a good supply of stewing and baking apples, of his own raising, saves a great many hard dollars yearly, otherwise to be paid to the miller or butcher. Or, if he raises his own meat and grain, an equal amount is thus reserved for market. Then, what a valuable addition to the comfort, variety, and luxury of the table! By the first of summer, the thick trusses of strawberries begin to redden in the sun; and half a dozen quarts of this melting crimson fruit may be had each day for the table, from as many half-rod beds. Cherries, currants, and raspberries, continue through the first half of summer, followed by early, juicy apples; rich, bloom-dusted plums; golden, perfumed apricots; and buttery and melting pears.

Now, we do not say, as some most mistakenly remark, that this fine and delicious supply costs nothing after the trees are planted; for good fruit cannot be relied on, unless the ground is well cultivated and manured. But it does not cost half so much to cultivate an acre of fruit, as an acre of potatoes or corn; while the amount obtained is greater than either; and all ready for the table, without going through the process which the grain crop requires, of threshing, and winnowing, and grinding, and kneading, and baking.

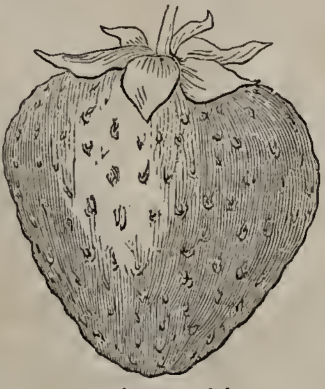
By planting rich, high-flavored apples, for stewing and for pies, instead of poor and insipid ones, each family may save fifty or a hundred, or two hundred pounds of sugar annually, in sweetening and spices. A friend of ours finds it cheaper to buy good fall pippins for fifty cents a bushel, than poor sorts sold as "cooking apples," for fifteen cents a bushel. He uses the Talman Sweetings largely, for baking and for puddings, and thinks that an Indian apple pudding, made by this natural sweetening, the cheapest and best pudding in the world. He estimates that he saves from $75 to $100 annually in the cost of his table, by his fruit.

Fruit for Market.—The man who wishes to make a business of marketing fruit, and obtain a regular yearly income, must plant many kinds. Some kinds will succeed best this year, and others next. An acquaintance in western New-York sold, in 1849, twenty-five hundred dollars worth of peaches from about 12 acres. Fruit was scarce that year, and peaches sold at a high price. A large cultivator of the grape, on the Hudson, sells sometimes $5000 or $6000 worth of grapes. Richard J. Hand, of Monroe co., N. Y., sold in 1845, $440 worth of Northern Spy and Roxbury Russet apples from *one acre*. Now, a *general assortment* of the best kinds of fruit, will be likely to furnish every year, with good culture, one or more highly profitable crops.

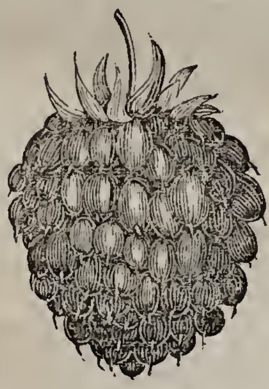
THE CIRCLE OF FRUITS.

Are our farmers—or such of them as have abundant means for this purpose—supplied with good fruit during the whole twelve months? Is there any one commodity, more calculated to increase the pleasures of the country, and to render home attractive to young people, than fine, ripe, fresh fruit, of one's own raising, during the entire season?

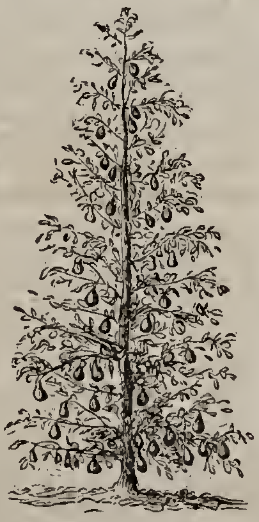
Many have adopted a very erroneous opinion, and suppose the "fruit season" to be a small portion of the year. A good selection would extend the period of actual bearing and ripening in the open air, to nearly six months; and such kinds as possess keeping properties, if in sufficient quantity, would supply the other six. The first fruits ripen, even so far north as Albany and Rochester, by the first day of summer, and two weeks earlier at Philadelphia and New-York. Three varieties of the cherry—the Early May, May Bigarreau, and Early Purple Guigne—mature simultaneously with the Duke of Kent and Large Early Scarlet Strawberries; a host of other fine varieties of both these kinds immediately succeed them. Currants and Raspberries soon join the list; the Primordian plum, the Amire Joannet and Madeleine pears, and several delicious apricots are on hand by wheat harvest. After which the profusion of peaches, pears, apples, plums, grapes, &c., furnish the richest supplies through autumn. Grapes and pears may be kept till spring, and apples till the succeeding summer. But, let it be remembered, that if the *long-keepers* are not laid in in very liberal quantities, the stores will soon be exhausted. The loss by unavoidable decay, as well as by consumption, must be allowed for An excellent mode of keeping winter and spring apples, in the absence of a better, was this: "Lock them up in a cool, dry cellar, and hide the key." The error was in the limited supply; its correction, is to supersede the necessity by an abundant store. Every cultivator, therefore, while he plants liberally of the earliest ripening varieties, must plant still more liberally of long-keepers; for while the former are soon succeeded by others, the latter must extend their benefits through a long and otherwise dreary period.



Burr's New Pine.



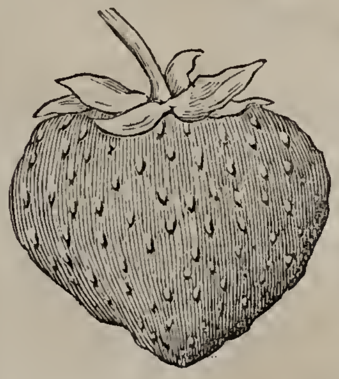
Red Antwerp.



Dwarf Pear Tree.

Raising Quinces.—A correspondent of the Horticulturist, who raises this fruit of extraordinary excellence, pursues the following course: He selects good, deep, dry, rich soil, which is deepened by a thorough use of the subsoil plow, and manure applied copiously and deeply, by dropping it in the bottom of each furrow as the plowing proceeds. Large and deep holes are dug for the trees; each receives half a barrel of good compost; the branches are shortened one-half, before setting, and the soil well settled among the roots by drenching with water before the hole is quite filled. All fruit trees, by the way, should receive this good treatment. He does not lose one tree in a hundred, by this excellent practice.

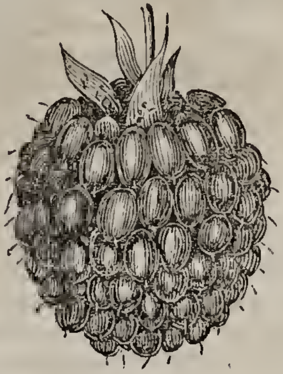
The pruning is given in autumn, and consists of cutting out, as sparingly as possible, and only old, crooked, crowded, and decayed branches. Every autumn, manure is spread round each tree, and after a light plowing in spring, salt is spread broadcast at the rate of ten bushels per acre. The salt is regarded of very great consequence, but it must be applied in connexion with free manuring every year. The ground is kept mellow and clean by constant cultivation, potatoes, sugar beets, &c., being found well adapted to the purpose. The principal secret of success, it will thus be perceived, consists in cultivating and doing every thing in the best manner; while others, who do not succeed, do not cultivate their trees at all.



Black Prince.

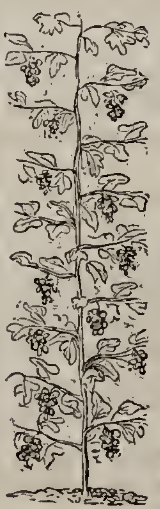
The writer states that a good crop of quinces may be obtained three years after transplanting, and the trees will continue in a productive state thirty years.

Raspberries.—These should be pruned as soon as the surface of the ground becomes thawed in spring. All the old stems, and all the smaller young shoots, should be cleared away to the ground, and about half a dozen of the largest stems of last year's growth left for bearing. Their upper extremities, for a foot or two, should be cut off, being weak and useless, and detrimental, from their weight and shade. The remaining stems, if not of a stiff and upright variety, should be loosely tied to stakes.



Fastolff.

Hardy Grapes need pruning early, before the sap flows and *bleeding* commences. A moderate bleeding need not be feared, but if profuse, it is detrimental. The sooner the work is done in the spring the better. The Isabella, Bland, Catawba, and other American varieties, are of such rampant growth, that when only a few years old, they bear most abundantly, and hence the inexperienced cultivator concludes that pruning is not necessary, and that they do better without it. A most erroneous conclusion—for the vines by such neglect, soon become a mass of thickly matted stems and branches, their vigor is exhausted, and diminutive crops of poor fruit are the result. , But by good pruning they may be kept in perennial vigor and undiminished productiveness.

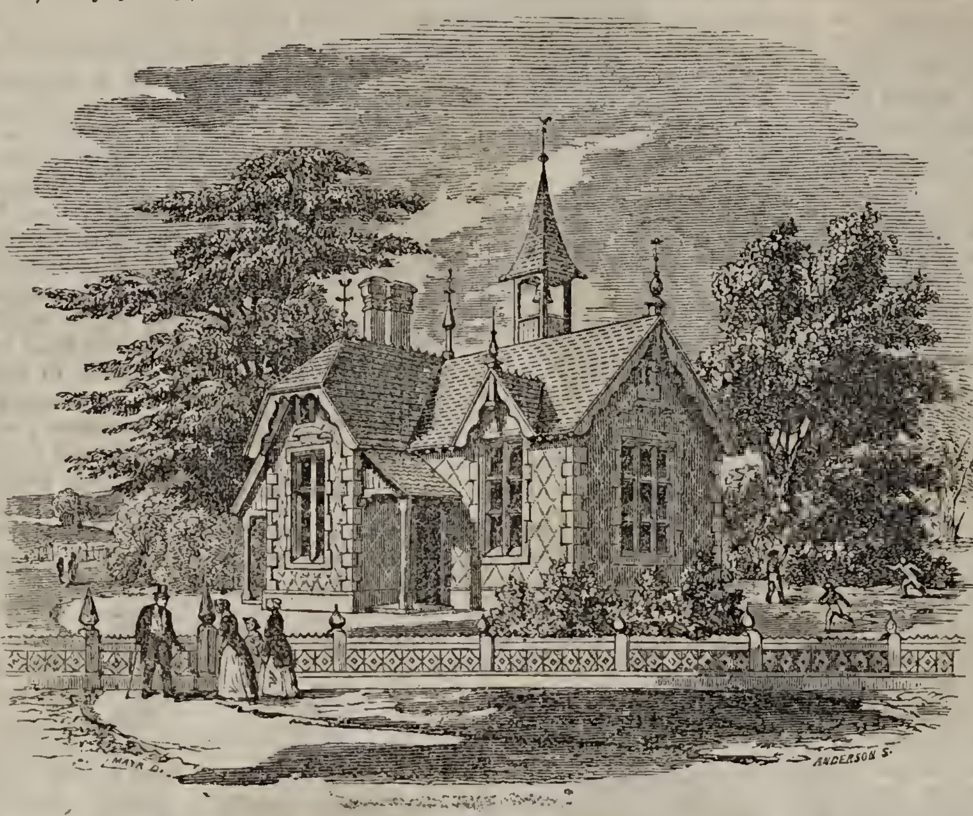


Spur pruning.

Cultivating Dwarf Pears.—Every intelligent fruit raiser is aware of the necessity of cultivating and manuring the soil well, for dwarf pear trees. S. B. Parsons states that he has 1700 trees on four acres—that he applied to this orchard last spring, $150 worth of manure, and gathered in the autumn 275 bushels of potatoes, 30 tons sugar beets, and a large quantity of turneps and cabbage—paying the expenses of manure and cultivation, and giving the pear trees a vigorous impulse.

Fruit Trees which lack vigor of growth, should be stimulated with a good coating of old manure, spaded in as soon as the frost leaves the ground. Soapsuds is good for any tree, and especially for the peach.

DESIGN FOR A COUNTRY SCHOOL-HOUSE.


MAYR D.
ANDERSON S.

THE accompanying design is copied from that exceedingly interesting magazine, "THE HORTICULTURIST." The editor remarks, very justly, "The district school-house, which ought to teach youth lessons of order and beauty, as well as the 'fundamental branches' usually taught there, is perhaps the only public building in the country which exhibits utter neglect.* In N. England, this reproach is fast passing away, and public school-houses, admirably designed, well arranged, warmed, ventilated, and fitted up in an excellent manner, are to be found in the neighb'rhood of many of the larger towns." The design here given is a reduced copy from a design in Kendall's work on Schools and School-Houses, published in London. It represents a small school-house, in a style admirably suited to harmonize with rural scenery. Built of stone, its cost is estimated in England at £270 but might be built of wood for half that sum. Even if not exactly copied, we think this design would afford some excellent hints. We do not see why it would not, in its exterior, have an agreeable effect if adopted for a small country meeting-house; it would appear far better than many as now built.

---

* We once heard a traveler remark that he found no difficulty in picking out the school-houses from all the other country houses in a large part of New-York State, for they were the very worst, most dilapidated, and most unadorned houses in the neighborhood!

KITCHEN GARDENING.

ASPARAGUS.—It is a fine thing for this plant to have rich beds of soil and manure, two feet deep, for the roots to run in. But one great reason that asparagus does not grow larger is, the plants are placed *too thickly together* in the bed. Rows a foot apart will not answer—they should be two feet at least.

Any one may satisfy himself on this point by planting two beds as follows: One to be two feet deep, with soil and manure well mixed together, and the rows a foot apart; and the other a richly manured soil one foot deep, with the rows two and a half feet apart. In four years, the latter will furnish altogether the largest stalks. But if the bed is both deep and the plants far apart, the stalks will be larger than either.

The nearest possible distance admissible is a foot in the row. In a trenched bed four feet wide, only two rows should be allowed, two feet apart, and the plants alternating, (not opposite) thus giving more space between them, as in the following diagram:

```
*    *    *    *    *    *    *
   *    *    *    *    *    *
```

TO RAISE EARLY CUCUMBERS.—Place pieces of inverted *turf* just beneath the surface of the soil in a hotbed, and on these plant the seed. As soon as the time for spring frosts has passed, lift out carefully the pieces of turf with the growing plants, and place them in highly manured ground, where they are to complete their growth. No check is given to their growth by this removal. If there appears afterwards any probability of a night frost, cover them with a bell glass. Cucumbers have been thus raised for the table by the first of summer.

EARLY LETTUCE.—The cheapest and best way to have very early lettuce, is to sow the seed early in autumn, in very rich ground, and protect the young plants during winter with a frame and strong glass. If *light* is not admitted, the lettuce will die. The white head lettuce is best for this purpose.

If a few of the plants are set in a hotbed in the spring, they will come forward very rapidly—but without the hotbed, the crop will be as early as in a hotbed with the usual management.

MELONS AND CUCUMBERS.—A common error is to plant the hills too closely—six feet apart is about the right distance. Another error, is too many plants in a hill. A dozen will do till they are beyond the reach of "the bugs," but never more than *three* after the runners start. Cobbett used to say, "You will have more cucumbers from one plant in a hill than from two; more from two than from three; and so on till you get up to fifty, when you will have none at all!"

Millinet boxes are the best security against bugs.

Remember that high and heavy manuring is very important for these crops—and let all the manure be thoroughly mixed up with the soil. One of the heaviest crops of melons ever raised, was watered every alternate day with a liquid made of the cleanings of the hen-roost mixed with water, and soaked until the water fermented. Half a pint was poured on each hill at a time, and the offensive odor drove away nearly all the bugs.

EARLY POTATOES.—By sprouting seed potatoes about two inches long in a warm place, early in spring before planting, taking care not to break the sprouts in covering, the writer has had potatoes four to six inches high, by the time that others came up, planted in the usual way without the sprouts being started; and they have maintained this advantage till maturity.

FLAT TURNEPS.—The difficulty of obtaining fine crops of this root, on clayey soils, has often been noticed. A neighbor succeeds finely in all cases by the following mode: He spreads old straw over the surface, and burns it, which destroys the insects, improves the soil, and gives it a coating of ashes; then sows his seed. A good crop always results. A good crop of turneps may often be had, with almost no cost, by sowing the seed among potatoes, at the time the latter receive their last hoeing.

THE CABBAGE GRUB may be entirely excluded from the young plants, by rolling the stem in a piece of paper.

MANAGEMENT OF POULTRY.

We know of no one who has better described the advantages as well as the evils of poultry, as commonly allowed to run at large, than Prof. Turner, of Illinois, in Downing's Country Houses. He remarks: "Every householder knows the value of good fresh eggs, and an abundance of good fat poultry the year round. But few know how to obtain them without having them cost twice as much as they are worth. A hen is much like a fire-brand — a fine thing in the right place—but the worst of all things in the wrong place. Like the harpies of old, they are sure to defile all they do not destroy. But with proper conveniencies for managing them, they are among the most agreeable, profitable, and useful objects in country life. To children, especially, fowls are objects of exceeding interest, and form an almost necessary part of the means of developing the moral and industrial energies of a country household. See that little fellow toppling along with his cap full of eggs for 'mamma,' or patting his favorite chicken on the back. He who will educate a boy in the country without a 'chicken,' is already a semi-barbarian; and he who leaves his chickens to make a hen-roost of all things, sacred and profane, visible and invisible, is still worse; to say nothing of the good housewife's flower patch in the garden, the very mention of which excites no small fear of a shower of oven brooms and brick-bats, while the whole welkin rings again with the discordant 'shew there! shew there!'"

On large farms, where the barns and stables are remote from the house, carriage-house, garden, &c., hens may be kept with very little trouble. If not very numerous, little inconvenience will be experienced in permitting them to run at large. They should be excluded from the grain, and suffered to eat refuse grain, weed seeds, and scatterings. But they must not be allowed to roost on the plows, sleds, horse-rakes, nor any other tools which may chance to be housed in any other part of the barn, but be specially provided with a sleeping apartment. It will be much cheaper than to build a separate hen-house, to devote a portion of the upper story of the barn to an apartment for their use, which should, as an indispensible requisite face the south. It should be well lighted with glass windows, protected by wire gratings — the windows to be thrown open in summer.— The partitions should be studded and double, and filled in with tan, sawdust, or ashes, to secure warmth in winter. Rough poles for roosting should be placed overhead, with a sloping board roof immediately under, extending part way across the room, to receive the droppings, which are easily scraped down into a basket. This apartment is ascended by a small flight of steps, which the hens will soon learn to travel, if they receive a part of their food for a time in feeding boxes above. Where it has been found necessary to confine them to a picketed or wired hen yard, instead of allowing them unlimited range, a covered way of light lath work, extending directly from the apartment, in a sloping direction to the yard, at some rods distance, has been found to answer the purpose completely.

◆

Colic in Horses.—External remedies, as well as internal, should not be neglected. One of the best external applications is turpentine, applied freely.

HINTS FOR NURSING THE SICK.

1. Let the nurse help the patient in giving an account of himself to the physician.
2. Make it a point of conscience to follow punctually all prescriptions—if the patient is placed in the physician's hands, let not the nurse thwart his aims by assuming to know best.
3. Wear a cheerful countenance, and be gentle and noiseless.
4. Never burden the sick with unnecessary attentions, nor allow him to suffer for want of care.
5. Attend strictly to and prevent every little annoyance, which a well person would not heed, as slamming doors, treading heavily, talking too much, or leaving articles displaced in the room.
6. Use great care to prevent colds or chills in changing beds or linen. Let linen be well aired and warmed. Place a warm blanket or shawl round the shoulders when sitting up in bed. Smooth the pillows, straighten the bed clothes, and keep every thing as neat, comfortable, and refreshing as possible, to the weary sufferer.
7. During night, let the nurse keep well wrapped in warm dress—use food as a substitute for sleep—and place every thing handy, so that little movement or noise shall be needed.
8. Feverish patients are greatly refreshed by a frequent sponging in tepid water, in which a little salæratus has been dissolved, which tends to soften the skin.
9. In dressing a blister, have every thing ready, that it may be exposed as short a time as possible to the air.
10. Give fresh air on every practicable occasion.
11. Let every thing, dishes, medicine, glasses, and all else, be kept clean.
12. Bear patiently every infirmity of the sick—and remember that it is much better to be the *nurse* than the *patient*.

◆

False Economy.—The American Agriculturist estimates there are ten farmers who waste $50 annually in manure, where there is one who pays a dollar for an agricultural paper, which would show him how to save it.

PORK MAKING AND PORKERS.

Every farmer, almost, is anxiously inquiring whether he can really afford to raise and fatten hogs at the prices he gets. And then again, we hear different persons deciding with a great deal of precision, exactly what it costs to raise pork under any circumstances. Now, we happen to know, from our own experience and observation, that while it actually costs some men a shilling a pound, York currency, others will do it for one quarter of that sum. Would it not be interesting to know the reasons of this difference ?

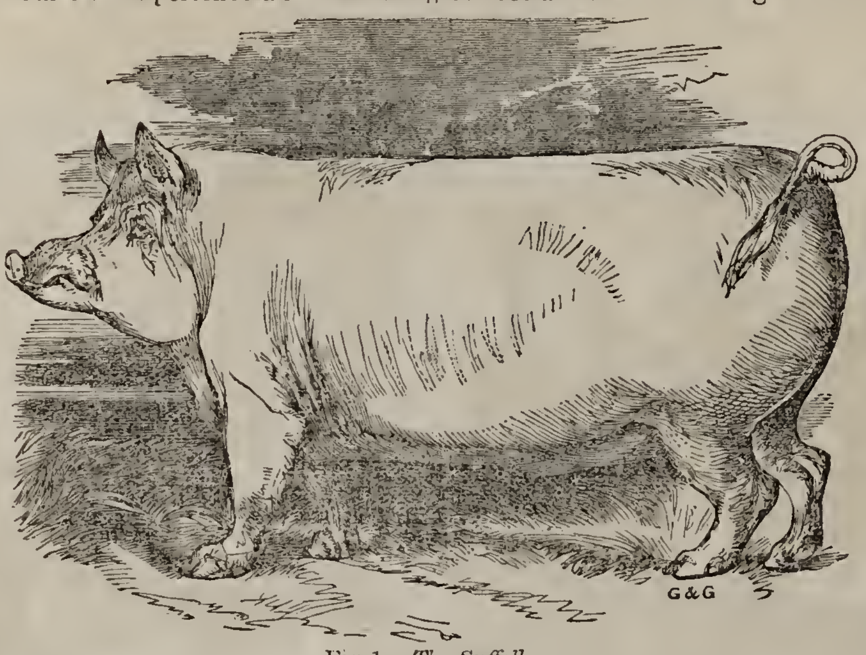


Fig 1. *The Suffolk.*

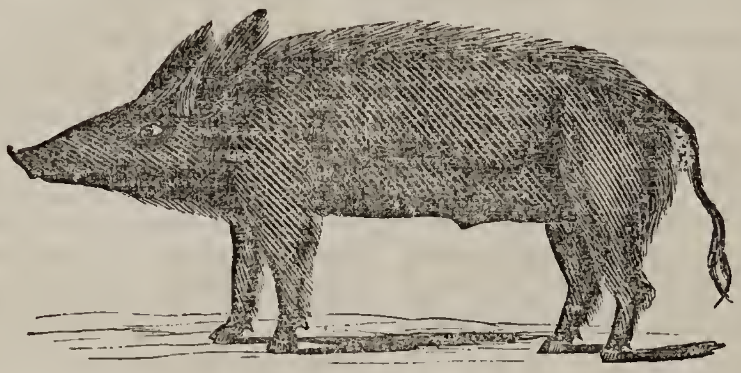


Fig. 2. *The Landpike.*

First, in the *breed*. Some breeds of hogs will yield more than twice the amount of fat and flesh for the food consumed, than other sorts. In other words, they convert a much greater portion of the corn to useful purposes, and let but little of the nutriment escape.—The China, Berkshire, or the Suffolk, for instance, (fig. 1,) economize the food they eat, much better than those sorts which approach the Landpike in form, (fig. 2.) Our own experience satisfies us that Berkshires, or even good half-blood Berkshires, would make as much pork out of a hundred bushels of corn, as a majority of the hogs raised in the country would out of two hundred bushels. Thus, without any increased cost, except the trouble of getting the right sort, the farmer who has his wits about him actually saves, clearly and completely saves, five hundred bushels out of every thousand he feeds out. No wonder that some men get rich while others grow poor. Another great saving is made by *cooking* the food. But, to set a large kettle in a common brick or stone "arch," may hardly pay for the fuel consumed. Economy in *fuel*, as well as in corn, must not be forgotten. Mott's Agricultural Furnace, described on a previous page, is one of the best things for cooking with little wood. A hogshead, as a steamer, placed closely over the boiler, would probably be an additional improvement. It does not seem to be essential that the corn should be ground, except that it cooks in less time. Prof. Turner describes a mode of cooking corn in the ear by steaming, so economical of labor and fuel, that he asserts the labor of steaming to be actually less than feeding dry corn in the common way. We can only give a very meagre outline of his plan. A *steam vat* is made at one corner of the hog-house, 5 feet square and 10 feet high, of a double stud partition, with dry clay rammed in closely between, being done while the boards are nailed on from bottom to top. In the bottom of this vat, there is a barrel or box, open at top, with clay also rammed all round its sides, which is made to serve as a boiler, by means of a sheet iron or sheet copper pipe, (copper is best) 8 inches in diameter, running through the sides of the box in a horizontal direction. The fire is built in this pipe, and heats the water on every side. The further end of this pipe is closed, but a smaller pipe, $3\frac{1}{2}$ inches in diameter, runs upward as a fire flue. A cover with wooden holes lies over the boiler, and through these holes the steam ascends into the vat, which will hold about 30 bushels. Corn is shovelled in at the top, till about two-thirds full. It is then covered tight, and a fire is built. The steam rises through the cover, and a part is condensed and falls back into the boiler; the corn swells and fills the whole vat. The boiler is supplied with water occasionally through a tube. When the corn is steamed enough, it is let out with ease through a door near the bottom, on the floor or into a self-feeding trough, where the pigs obtain just what they want and no more.

After feeding corn in this way, an occasional change to dry food is useful. Some farmers have found a great saving in cooking their refuse or second-rate apples with corn. Others have made pork very cheaply by allowing their hogs the run of the orchard through autumn, finishing the last two or three weeks with corn.

A great deal is often lost by not providing comfortable quarters for hogs. A pig is not essentially a dirty animal—he does not plunge into a pool of muddy water because he has a fancy for it, but a cool bath he wants, and will have, at whatever cost. He will thrive and fatten faster, if kept clean and comfortable, according to careful experiment.

Root Crops and Weeds.—Many farmers are deterred from raising ruta bagas, carrots, field beets, &c., by the labor and expense of hoeing and destroying weeds, although these crops often yield from 500 to 800 bushels to the acre. To avoid all this trouble, begin early in the spring, if for ruta bagas; and the year before, if for carrots or beets, and by repeated plowing and harrowing, clear the ground effectually of weeds. This will save much labor. Then, when the young plants are up, hoe them *at all hazards*, by the time they are an inch high. This will require about one-fifth of the labor needed two weeks later, or when the weeds are a foot high.

Potatoes.—To clear these of weeds, where they are planted in drills, pass a fine-toothed harrow over the whole surface, just before the potatoes are up, which mellows the soil and destroys the young weeds. When up, plow *from* the plants; then a light furrow towards them, leaving the hills or ridges *broad*.

Gates.—Every gate should be kept in good, self-shutting, self-latching order. A hole should be bored in the post of every gate, and filled with grease, for readily applying to the latch or hinge, when the one does not play freely, or the other creaks.

WIRE FENCES.

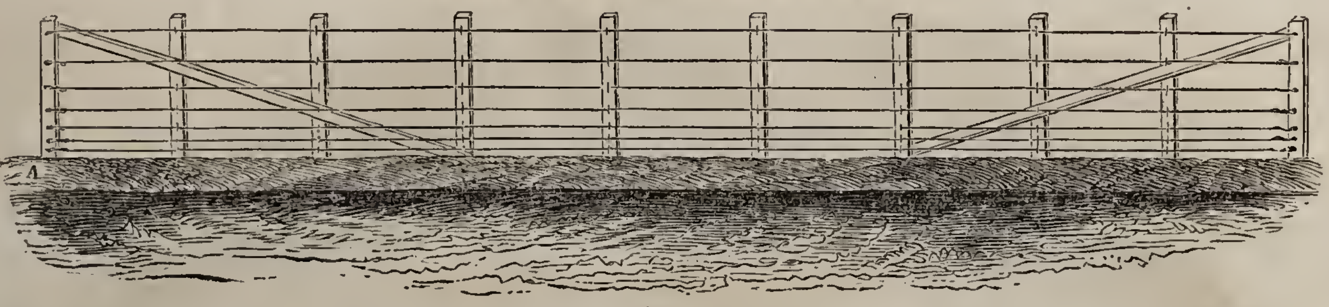


Fig. 1.

Wire fences are attracting much attention in all parts of the country. When they have failed, it has usually been owing to poor iron or too small wires, in endeavoring to make them cheap. Where stone for walls, or timber is scarce, they may prove valuable. Col. Capron, of Maryland, made two-thirds of a mile in one entire piece, stretching the wires the whole length between two stout main posts, the wires being supported by intermediate posts 8 feet apart. The main or end posts must be firmly braced, as in the above figure. Col. Capron used No. 5 wire next the road, weighing one pound to 8 feet, and costing about 70 cents per rod for 6 wires. He thinks No. 7 wire, weighing one pound to $11\frac{1}{2}$ feet, will do for partition fences. Some use No. 10 wire, which is about 24 feet to the pound, but it is liable to become broken, except under unusual circumstances. A wire fence, patched with rails and boards, as we have often seen, where small wire was used, is not a pleasing object. The wire must be annealed.

The wire passes through the end posts, and may be fastened to the intermediate posts by staples, made as follows: wind a wire closely round a flat iron bar, passing from one end to the other; then with a cold chisel cut the wire along the middle on both sides, which will both flatten and sharpen the newly made points. Gas tar will prevent the rusting of the wires, but being so black will make them very hot in the sun, and they will lengthen and contract more by heat and cold, than if painted with yellow ochre. Col. Capron keeps his wires always equally stretched, by means of a 150 pound weight, acting on a lever at one end. His two-thirds of a mile of wires, by expanding and contracting, cause this weight to rise and fall about thirty degrees.

Before using, the wire should be wound on a large cylinder, which may be attached to a wheelbarrow. The ends are looped together thus, (fig. 2,) or if large, by flattening each end, and then binding them together with small annealed copper wire. It is tightened in the main posts by means of screws passing through the posts by turning a nut, (*a*) as in the annexed cut, (fig. 3;) the wire having been drawn tight and keyed in the previous post, braced for this purpose. Square headed, iron bed-screws, may be bought cheaply by the dozen, and the ring or hook welded on by a blacksmith. In making the fence, the hands must be protected by thick leather mittens.

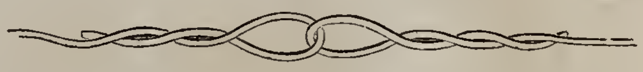


Fig. 2.

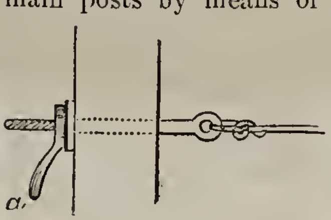


Fig. 3.

If a ridge is thrown up by two furused, seven wires will be enough in all rows at bottom, or a bottom board cases, at the following distances apart: $4\frac{1}{2}$ inches, $4\frac{1}{2}$, 6, 7, 8, and 9. In secluded or unexposed places, wire fences, with small wires, have been made for fifty cents per rod; but a good substantial one can not be made for much less than one dollar per rod, and some have cost considerably more.

GOOD RULES AND GOOD MANAGEMENT.

One of the best farmers in the State of New-York, has the following rules and regulations agreed to and signed by every man he hires.

It is expected that all persons employed on the farm of ——— ———, will carefully attend to the following system:

Regularity in hours.
Punctuality in cleaning in putting away implements.
Humanity to animals.
Neatness and cleanliness in personal appearance.
Decency in deportment and conversation.
Implicit obedience to the proprietor and foreman.
Ambition to learn and excel in farming.
No liquor or strong drink of any kind to be allowed.

MAXIMS OF ORDER AND NEATNESS.

1. Perform every operation in the proper season.
2. Perform every operation in the best manner.
3. Complete every part of an operation as you proceed.
4. Finish one job before you begin another.
5. Secure your work and tools in an orderly manner.
6. Clean every tool when you leave off work.
7. Return every tool and implement to its place at night.

◆

Experiment with Ashes.—A correspondent of the New-England Farmer, spread "on a small square of a few rods," ten bushels of ashes, on worn-out meadow. "The grass there was three feet high, while all around, with equal advantages, except ashes, it was hardly five inches high in July."

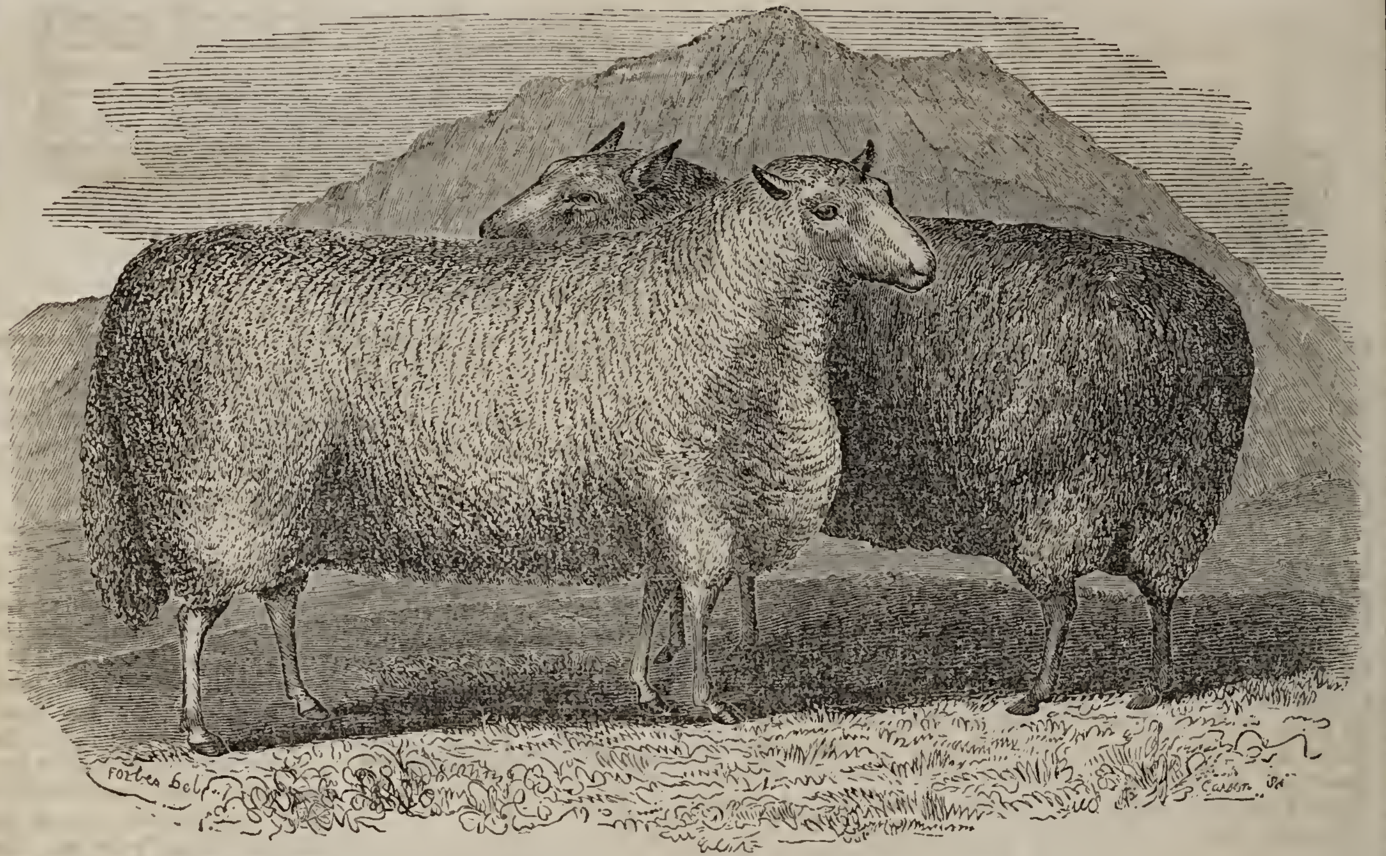
Draining Land.—Many persons mistakenly suppose that it is not necessary to drain land in a dry climate. A want of draining is often the reason that land suffers from drouth. When water-soaked early in the spring, it cannot be well plowed; or if plowed, it is worked into mud and bakes hard. But if well drained, it may be plowed early and deeply; and being thus made deep and mellow, it retains moisture through the summer.

A crop of oats or barley is some times one-half larger merely in consequence of being put in a fortnight earlier on well drained land, that can be worked at all times. Trying to farm well without draining, is like beating up stream against the wind—every thing tends to baffle the husbandman.

Draining on a Large Scale.—Prof. Norton, of Yale College, visited a farm in Scotland; the surface of the soil was stiff, and the subsoil a close clay. The owner had drained 900 acres, with a length of drains equal to 300 miles. He had a machine for making tiles for his drains, which turned out 400,000 a year. The rent of the land was immediately raised by this improvement, from $2.50 to $6.50 per acre.

Draining in Western New-York.—A field of several acres in Cayuga county, was so wet that it scarcely produced eight bushels of wheat per year. It nevertheless contained a very fertile soil, but its fertility was locked up and rendered useless by being submerged in cold water during an important part of the year. The owner run under-drains through every part, and the first crop of wheat after the operation, was *forty* bushels per acre.

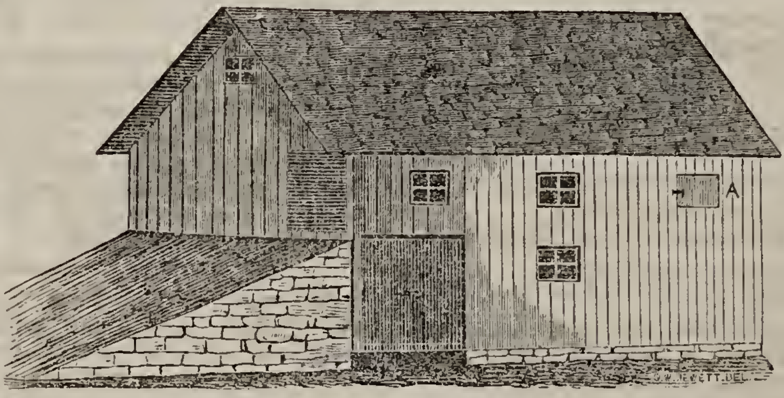
SHEEP HUSBANDRY.



THE CHEVIOT BREED OF SHEEP.

This is a breed, as yet nearly new in this country. In Scotland, they have the reputation of being remarkably hardy, and thriving under apparently very adverse circumstances. They yield on an average 5 lbs. of long wool, washed upon the back; ewes at five years have weighed 60, 70, and even 90 pounds—and some wethers 200 pounds. They promise to be an excellent breed for mutton. Their introduction and trial seem very desirable, especially in a country like ours, where there is such a diversity in climate, soil, and aspect, as well as in the various demands for long and fine wool, mutton, &c.

Two-story Sheep Barn.—These are made so as to have two floors under one roof, thus doubling the accommodations, with a small increased expense in building. A shed, (adjoining a hay barn) 18 by 26 feet, with 13 feet posts, will furnish room for two flocks of sixty each, including the space for feeding boxes. The annexed figure represents one large enough for hay at one end. It is 25 by 34 feet, with 12 feet at the right end for hay. Where rising ground cannot be had, a raised ascent, as in the cut, is made for entering the upper story. The upper floor should be matched, to prevent the liquid manure from dripping through on the sheep below. The basement has double doors, so as to admit backing in a cart or sled. A folding plank is opened in the upper floor, through which the manure is passed in loading. The hay is pitched in through the door at the right.



Shelter for Sheep.—L. A. Morrell, one of the best sheep raisers in the United States, has found that he saves a ton of hay for every hundred sheep, by good shelter. He found that the increase in the amount of wool was 1,250 lbs. in four clips. The increased number of lambs exceeded a hundred a year.

Throw the whole into figures:.

One thousand sheep, as commonly wintered, cost a dollar per head, or......................		$1,000
One-third of this saved by shelter, is,.....	$333	
Fifty sheep saved in the 1,000, $2 each,...	100	
Increased weight and increased value by shelter, one-tenth of the whole, ...	200	
Increase in fleece, say 160 lbs.,...........	60	
Increase in lambs, say 60,................	50	
Total, ...	$743	

This estimate is founded on an actual trial, and the amount would amply pay *every year* all cost of suitable sheds—not counting the comfort and satisfaction of seeing the animals live and thrive—nor the comfort of knowing that one is practicing good, instead of bad farming.

The Age of Sheep.—The age of sheep may be known by the front teeth. They are 8 in number, and appear the 1st year, all of a small size. In the 2d year, the 2 middle ones fall out, and their place is supplied by new teeth, which may be easily distinguished by their larger size. In the 3d year 2 other small teeth, 1 on each side, fall out, and are replaced by 2 larger ones; so that there are now 4 large teeth in the middle, and 2 pointed ones on each side. In the 4th year, the large teeth are 6 in number, and only 2 small ones remain, 1 at each end of the range. In the 5th year, the remaining small teeth are lost, and the whole front teeth are large. In the 6th year, the whole begin to be worn; and in the 7th year, sometimes sooner, some fall out, or are broken. It is said that the teeth of ewes begin to decay at five or six; those of wethers at seven, and those of rams at eight. Sheep sometimes continue strong and productive until fourteen or even sixteen years old, and occasionally longer.

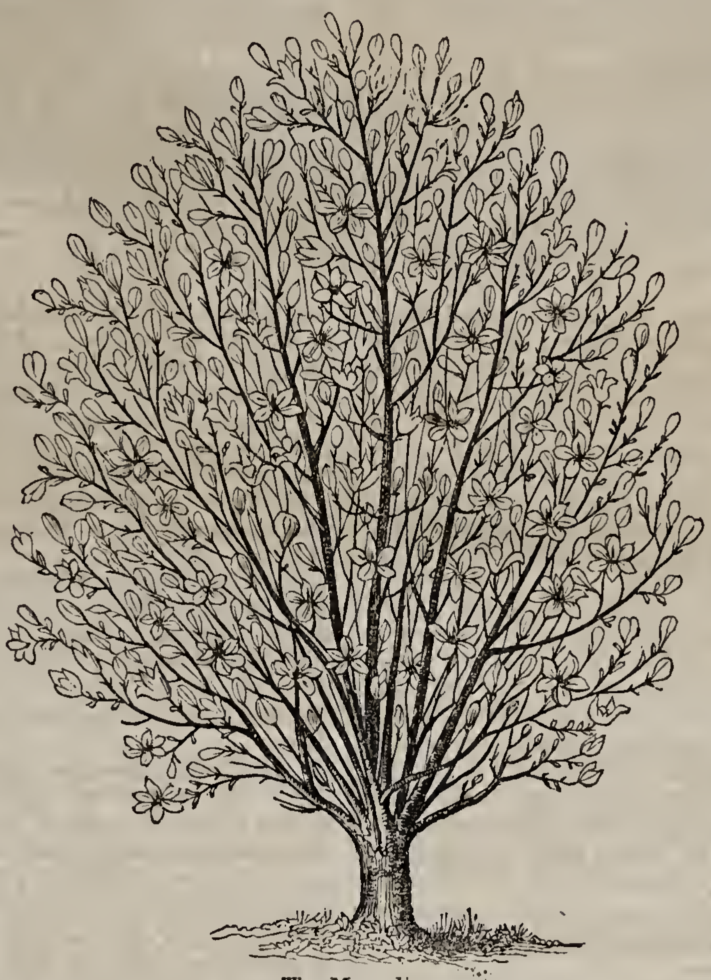
SHADE TREES.

Prof. Wilson, in Blackwood's Magazine, asks: "In what one imaginable attribute, that it ought to possess, is a tree, pray, deficient? Light, shade, shelter, coolness, freshness, music—all the colors of the rainbow, dew and dreams dropping through their umbrageous twilight at eve or morn—the grove, the coppice, the wood, the forest—dearly, and after a different fashion, do we love you all! And love you all we shall, while our dim eyes can catch the glimmer, our dull ears the murmur of the leaves—or our imagination hear at midnight, the far-off swaying of old branches groaning in the tempest."

And yet with what animosity is every fragment of our wild, rich, natural plantations assailed by the new settler; till nothing is left to shelter the newly erected dwelling from the burning, bleaching sun—and how many of the older homes, which ought to be now richly embellished with these most perfect of all rural adornments, are repulsive from their bleakness; exposed to torrid reflection in dog days, and to drifting snows and whistling winds at midwinter. And yet all the endless intermixture of intricacy, and beauty, and richness, and gracefulness, to say nothing of real, substantial comfort, may be had with scarcely more than the trouble of planting the trees, even under the most unfavorable circumstances.

Why should not every settler and land-clearer be willing to leave a few of the best selected maples and lindens, ashes and sycamores, elms and birches, among the forest myriads which fall before his axe, to make an attractive home for his children, even if he should forget that a handsomely adorned dwelling would give him a higher price for his land? And why will not every land owner in the older districts be willing to plant at least ten trees per year for the same purpose? Half the time now consumed with reading the interminable debates of Congress, would be enough to change the whole appearance of the country in ten years, in half the States of the Union, to say nothing of the improvement on the manners and morals of the people.

A less wild, and more cultivated and finished appearance, is given to grounds composed chiefly of native trees, by intermixing a few of the finest exotics, or rarer natives. The Magnolias are much admired for this purpose. The accompanying figure is an exact portrait of a tree of the Chinese White Magnolia, fourteen years old, and twenty feet high, standing on the grounds of A. J. Downing, at Newburgh, N. Y. There were over three thousand blossoms open upon it at once; and for the last ten years it has never failed in a single season, to produce a fine display of blossoms.


The Magnolia.

Grapes.—Every farmer, and indeed every person who has a yard, and the side of a building on which it may be trained, should have an Isabella grapevine. In a few years it will furnish a plentiful supply of grapes.

COOKING FOR THE SICK.

Chicken, Beef, or Veal Broth.—Cut up the chicken, or an equal quantity of lean veal or beef, and boil with two spoonsfull of washed rice, until tender. Then keep it covered in a bowl or pitcher, for use. When wanted, add crumbs of crackers or cold bread, with a little salt. It is very palatable for a sick person.

Water Gruel.—Boil a pint and a half of perfectly clean water, in a perfectly clean vessel; add it gradually to a mixture of two spoonfuls of Indian meal in three spoonfuls of water, in a bowl. Then pour the whole back into the vessel and boil it nearly half an hour, stirring it. Skim it and season it with salt. When admissible, one quarter of milk added and boiled up once, makes it more palatable to some.

Arrowroot.—Add a teaspoonful of the powder to a tablespoonful of cold water, rubbing it smooth. Add a spoonful of warm water, and again stir it till perfectly smooth. Then pour on half a pint of boiling water, and stir it till transparent. It may be seasoned with salt, or lemon juice and sugar, or sugar and nutmeg, with a little milk.

Panada.—Split a Boston cracker, place it in cold water in a pint basin on the fire, with a dozen raisins. The moment it boils, remove it from the fire, and add two or three lumps of loaf sugar, and nutmeg, if desired by the patient. This is much better than to crush the cracker, and is one of the most agreeable and nourishing kinds of food for the sick. The raisins are only to impart flavor, and must never be eaten.

Toast Water.—Very few know how to make toast water right. Toast the bread carefully to a full brown, but not in the least burnt. If not enough toasted, it will taste raw; if too much, it will be bitter. Put it while hot into cold water, and it will be almost immediately ready for use. Boiling water renders it insipid.

Beef Tea.—This is given to patients when very low, and has remained on the stomach when nothing else could, and succeeded when other means have failed.

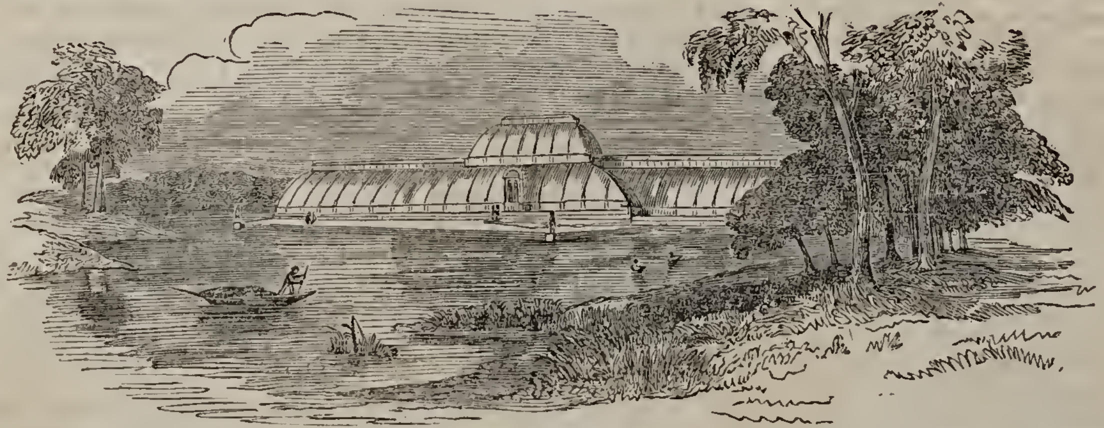
Cut thin a pound of lean fresh beef, place it in a jar or bottle, add a little salt, and place it for one hour in a kettle of boiling water. Then, by straining it, a gill of pure, nourishing liquid will be obtained. Begin with a teaspoonful, and increase it as the stomach will bear.

◆

Destroying Canada Thistles.—A great number of persons, the writer included, have *completely destroyed* large and thickly matted patches of Canada thistles, in one season, at a trifling cost, thus: Plow deeply and thoroughly once a month, beginning by the first of summer. The plants are thus kept smothered; they cannot breathe; and the whole bed of roots dies. At the last plowing, the soil will be clean, mellow and loose, and in the best condition for sowing wheat. Warranted not to fail, if well done—*the patch will be killed forever.*

Never feed a hog unground or uncooked food.

THE ENGLISH NATIONAL GARDENS AT KEW.



The Royal Botanic Gardens at Kew, in England, have been for the last ten years public property, thrown open for the benefit of the public, and augmented by various additions, till they now comprise about two hundred acres. They contain almost every thing that is interesting, and valuable, and magnificent, and extraordinary, in the vegetable world. Among other things, they have over twenty glass structures for plant houses, the largest of which is the enormous building containing the palm trees, which cost about $200,000. It is thus described in the Horticulturist: "It consists of a centre and two wings, (as you will see by the above figure.) The whole length is 362 feet; the centre is 100 feet wide, and 66 feet high; and the wings 50 feet wide, and 30 feet high. It is entirely constructed of iron, stone, brick, and sheet glass—not a particle of wood being about it. The roof is circular. The iron posts are inserted in great Cornish granite blocks. It is heated by 12 furnaces, and by hot-water pipes and tanks, carried beneath the floor. The aggregate length of these pipes is about five miles. The smoke from the furnaces is conveyed through a subterranean flue, in a brick tunnel, 6 feet high, (through which one may conveniently pass,) to the distance of about 400 feet, where an ornamental shaft or tower is erected, 96 feet high. In the top of this chimney and tower is a reservoir, to supply the houses with water; and at its base is a coal yard, and from this the coal is conveyed on a railroad through the tunnel alluded to. In the centre of the building is a gallery 30 feet high from the floor, ascended by a spiral staircase. From this gallery the plants are easily watered over the top; and the taller plants are more easily examined, and appear to much better advantage than from the floor level. It is really a charming sight which you have from this gallery, looking down on magnificent *Palms*, *Sugar Canes*, *Cocoanut Trees*, the great *Strelitzia augusta*, and many rare and beautiful tropical trees, in the most healthy and luxuriant condition.

"It affords one some positive idea of tropical vegetation. The plants are all in tubs, so that each one is placed where it ought to be, and can be moved about as circumstances may require. All the pillars in the house are clothed with climing plants of variety and beauty."

TIME REQUIRED FOR COOKING.

ROASTING.

Beef, large roasting piece,	4	hours.
medium roasting piece,	3½	"
Mutton, leg or saddle,	2½	"
shoulder or loin,	1½	"
Veal, fillet (or ham,)	4 or 5	"
loin or shoulder,	3 or 3½	"
neck or breast, nearly	2	"
Lamb, hind quarter,	2	"
fore quarter,	2	"
leg,	1½	"
shoulder and breast,	1	"
Pork, leg,	3	"
thick sparerib,	2	"
thin sparerib,	1¼	"
loin,	2	"
pig, 3 or four weeks old,	1½	"
Turkey, large to small,	1½ to 3	"
Goose, full grown,	2	"
young,	1	"
Duck,	½ to 1	"

Buckwheat Cakes, after standing to rise all night, are much improved by adding, just before baking, sour cream and salæratus—say a teacupful to a quart of batter. This makes them richer and lighter. Good for keen appetites on frosty mornings—and not bad for any other.

Corn Cakes.—Two teacups of buttermilk, one of sour cream, previously sweetened with salæratus, one tablespoonful of molasses, and Indian meal to make it nearly as stiff as muffins. Bake half an hour. Eaten with great *gusto* by those who have tried it.

Cooking Tomatoes.—The great error is in not cooking them *long enough*. They should cook slowly, and never for less than three hours.

To make Kisses.—Beat whites of three or four eggs to stiff froth; add one-half pound pulverized white sugar, and a few drops of essence of lemon. Of this, drop a teaspoonful on white paper, and place on buttered tins, and dry in a moderately heated stove. Cool and eat.

Raspberry Syrup.—To every quart of fruit add a pound of sugar, and let it stand over night. In the morning boil and skim it for half an hour; then strain it through a flannel bag, and pour it into bottles, which must be carefully corked and sealed. To each bottle add, if you please, a little brandy, if the weather is so warm as to endanger its keeping.

Raspberry Jam.—Take one pound loaf sugar to every pound of fruit; bruise them together in your preserving pan with a silver spoon, and let them simmer gently for an hour. When cold put them into glass jars, and lay over them a piece of paper saturated with brandy; then tie them up so as carefully to exclude the air.

Blackberry Syrup.—We are indebted to a friend for the following receipt for making blackberry syrup. This syrup is said to be almost a specific for the summer complaint. In 1832 it was successful in more than one case of cholera. To two quarts of juice of blackberries, add one pound loaf sugar, half an ounce nutmegs, half an ounce cinnamon, pulverized, half an ounce cloves, quarter of an ounce alspice, pulverized. Boil all together for a short time, and when cold, add a pint of fourth proof brandy. From a teaspoonful to a wine-glass, according to the age of the patient, till relieved, is to be given.

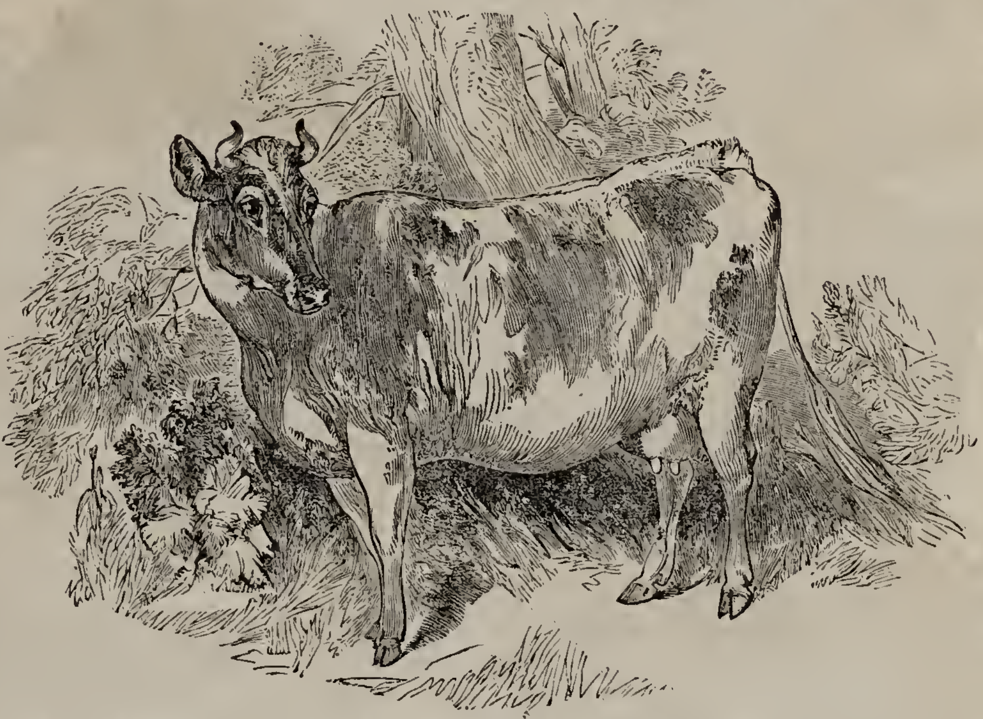
Sausages.—The best proportions are 3 lbs. salt, 10 oz. sage, 10 oz. pepper, to every one hundred pounds chopped meat.

Eggs, wholly imbedded in salt, the *small end downwards*, will keep from one to three years, perfectly fresh.

ALDERNEY CATTLE.

The Alderney Cows have formerly been famed for three qualities—for producing exceedingly rich milk—for the smallness of their size—and for destitution of beauty in form. "Except in Hampshire," says Youatt, "they are found only in gentlemen's parks and pleasure grounds, and they maintain their occupancy there partly on account of the richness of their milk, and the great quantity of butter which it yields, but more from the diminutive size of the animals. Their real ugliness is passed over on these accounts; and it is thought fashionable that the view from the breakfast or drawing room of the house should present an Alderney cow or two grazing at a little distance."

This animal, although small, is a voracious feeder. The quantity of milk which she yields is never large, but its richness is unequalled, affording more butter than can be obtained from any other cow. There is an instance of one of these on record, which afforded nineteen pounds of butter per week for three successive weeks.



Within a few years, an association of farmers in the Island of Jersey, have made great improvements in this breed. By selecting the very best shaped animals to breed from, they have been able to raise a new race, greatly superior in appearance and in fattening qualities, to the old Alderneys, without lessening their milking properties. Some of the improved breed have afforded fourteen pounds of butter per week, and ten pounds being more common during the spring and summer months. The old stock appear to be scarcely hardy enough for our more northern States. The new sort appear not to have been yet introduced.

Milch Cows.—The value of milch cows is depending on several circumstances, such as the quantity of milk produced, the butter it will make, the time of going dry, and the gentleness of disposition, ease of milking, &c. It is not always the smoothest and handsomest cows that are the best milkers; on the contrary, a disposition to take on fat is rarely found combined with great milking qualities. In England, the Ayrshires are great favorites as milkers; but there, as here, occasional instances in all breeds are found, where large quantities of milk are produced. In this country, considerable discussion has taken place as to the respective milking qualities of the Short-horns and the native breeds, and an ample list of the best that could be selected on both sides, with the quantities of butter and milk produced, may be found in Mr. Colman's 4th Report. We select a few of both kinds, to show the immense difference there is in profit, between keeping good cows and poor ones:

Cow.			*Butter per week.*
Belina, ...	S. H.,	Mr. Powell,....	20½
Blossom,..............	S. H.,	Mr. Canby, ...	17¼
Oakes cow, ...	N. B.,	Mr. Quincy, ...	19¼
Nourse cow, ...	N. B.,	Mr. Nourse, ...	20
Springfield,...........	N. B.,	Mr. Henshaw, .	21

What a Farmer ought not to do.—A farmer should never keep more cattle, horses, sheep, or hogs, than he can keep in good order; an animal in high order to the first day of December, is already half wintered.

Relieving Choaked Cattle.—If the potato or apple is near the mouth, (ascertained by feeling the neck) draw it out from above, by running the arm down and seizing it with the fingers, preventing the animal from biting by propping the mouth open with a plow clevis, held firmly by two men. A strong box, made on purpose, open at top and bottom, with projecting pieces to hold it by, is still better. The writer speaks from experience, having often thus drawn the potato from cows' throats. But when low down, it may be pushed into the stomach by means of a tarred rope an inch in diameter, with a ball of tow at one end as large as a hen's egg, bound with soft leather. A wooden rod of any kind is dangerous, and usually ruptures the gullet and kills the cow.

To Promote the Health of stock.—Mix, occasionally, one part of salt with four, five, or six parts of wood ashes, and give the mixture to different kinds of stock, summer and winter. It promotes their appetite, and tends to keep them in a healthy condition. It is said to be good against bots in horses, murrain in cattle, and rot in sheep.

Horseradish root is valuable for cattle. It creates an appetite, and is good for various diseases. Some give it to any animal that is unwell. It is good for oxen troubled with the heat. If animals will not eat it voluntarily, cut it up fine and mix it with potatoes or meal.

Feed all animals regularly. They not only look for their food at the usual time, but the stomach indicates the want at the stated period. Therefore feed, morning, noon, and evening, as near the same time as possible.

Guard against the wide and injurious extremes of satiating with excess and starving with want. Food should be of a suitable quality, and proportioned to the growth and fattening of animals, to their production in young and milk, and to their labor or exercise. Animals that labor need far more food, and that which is more nutritious, than those that are idle.

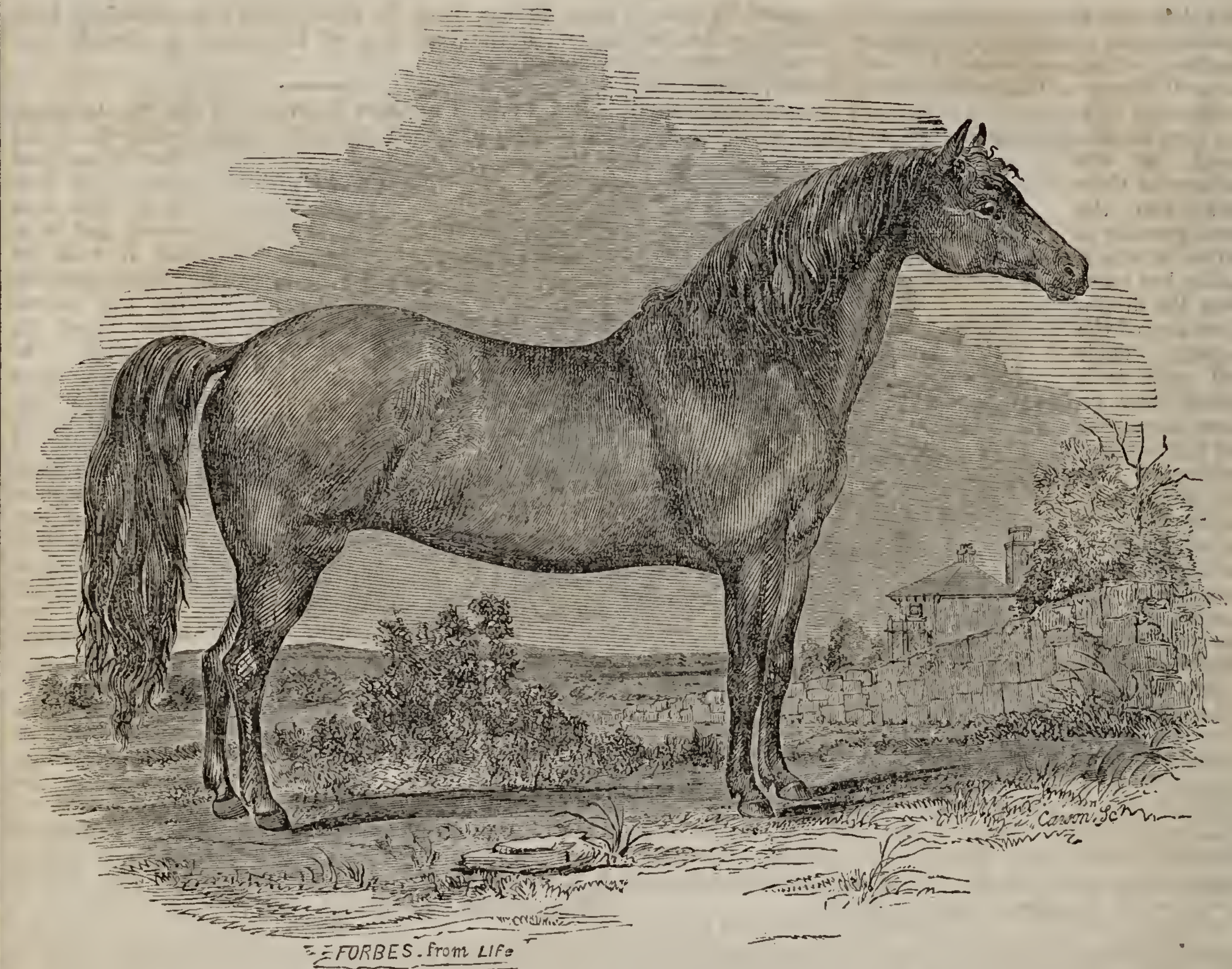
Guard all descriptions of stock against cold and exposure, especially against cold storms of rain, sleet and damp snow, and against lying out on the cold ground in cool nights, in the spring and fall.

In a dry time, see that animals have a good supply of pure water. When the fountains are low, they drink the drainings of fountains, streams, and passages of water, which are unwholesome.

If barns and stables are very tight and warm, ventilate in mild weather, even in winter.

In feeding animals on apples or roots, begin with a small quantity and gradually increase it. It would be better to have all changes in food made gradually, when there is a material difference in the nature of the food; as from hay to grass, and the reverse; from much fodder to much grain, and the reverse.—*Amer. Veterinarian.*

"LADY GIFFORD."



The above cut is a good portrait of a mare bred by Mr. M. **Aldridge**, of Wethersfield, Vt., and now owned by Mr. S. A. Gilbert, of East Hamilton, N. Y. Her sire was the well known horse "Gifford Morgan." She has great depth and capacity of chest, and remarkable muscular development, combined with justness of proportion, which gives her great bottom and power. She has naturally good action, and with mature age and proper training, will show speed enough to satisfy any *reasonable* man. She has great spirit and fire, but withal so much intelligence and gentleness, that a lady or child can safely drive her.

HORSES OF THE ANCIENTS.

The purposes to which the Roman horse seems to have been most commonly applied, were those of war and the chariot race. Virgil's description of the war horse is particularly fine, and presents much of the liveliness and truth of a pictorial representation.

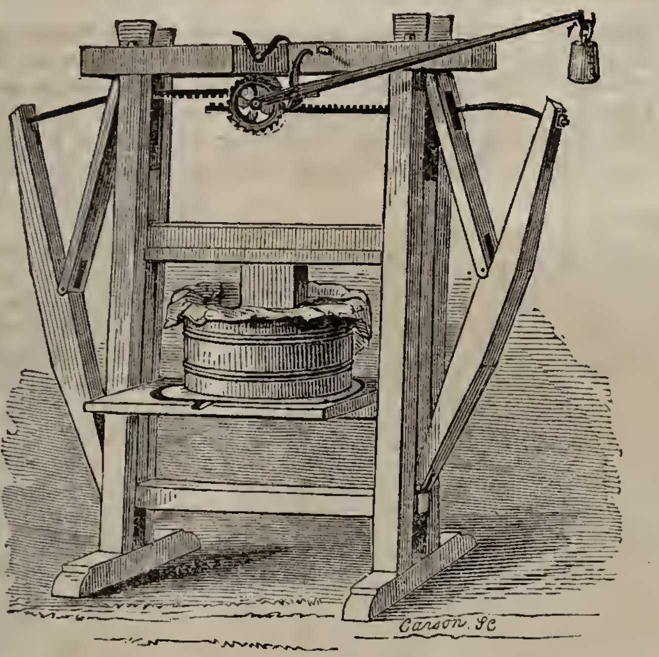
> "If then the distant clang of arms he hears,
> He paws, he bounds, he pricks his listening ears,
> Quivering his joints, and snorting with desire,
> Within his nostril rolls the thickened fire;
> Adown his crest his locks recumbent stray—
> O'er his right blade the bushy honours play;
> His horny hoof upturns the hollow ground,
> And rings the air in grave and solid sound."

Pliny says that the ears discover the intention of a horse; and Buffon remarks, that when a horse walks, his ears point forward; when fatigued, they hang down; and when angry, one ear points forward, and another backward. Every horse, he adds, turns his ear to that side from which he hears a noise; and when struck from behind, he turns his ears backwards. The notion of fire rolling within his nostrils, is highly descriptive of the natural appearance of these organs when the animal neighs or is much excited. This is occasioned by the unusual flow of blood, which becomes distinctly visible through the fine membrane with which the nostrils are lined. The thickness of the mane is noticed both by Varro and Columella.

The training of the horse, both for war and the race, seems to have occupied much time and attention, and to have been conducted with a degree of skill which could not have been attained without considerable study and experience. The steed, says Virgil, should first be accustomed to see, without fear, the arms of the warrior in fight, and to endure the clangor of the trumpet, to listen to the bridles rattling in the stalls, and to hear the rumbling of the chariots over the ground. When yet a colt, he should be soothed by kindly tones from his master's voice, and gently patted on the neck, till he comes to rejoice in being commended and flattered. At the beginning of his fourth year, he must be trained to run in the ring with measured pace, to bend his legs with ease, and to prance in "changeful curves." His speed must be gradually increased, till he seems to challenge the wind as he flees with ardor through the level meadow, unconscious of his reins, skimming so lightly as scarcely to print the surface of the sand.

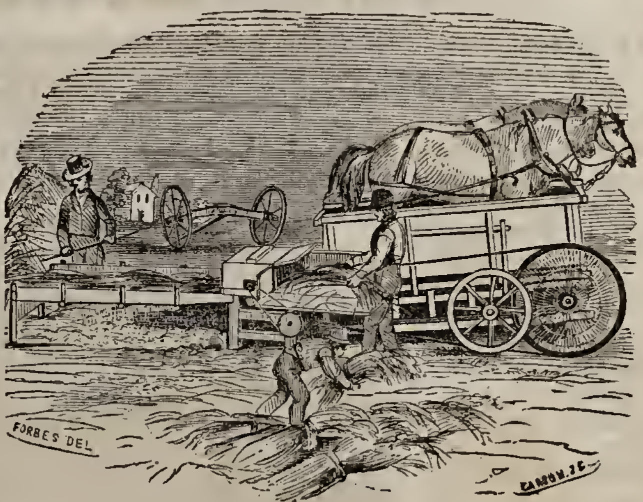
After having been thus trained, the poet directs that the animal should be plentifully fed with corn and other fodder, until the body becomes large and robust; but, he remarks, if pampered with corn before being trained, he will become high-mettled, and will, even, though held, rebel against the lash and the curb. Nothing, he further remarks, will more improve the strength of the males, than to keep them apart from the females.

Heaves—Although there is no remedy for severe cases of heaves, yet horses may be so far relieved that they may appear to be cured, while under good management.



KENDALL'S CHEESE PRESS.

The above cut represents an approved cheese press, for which the New-York State Agricultural Society awarded the first premium in 1848, and is, we learn, generally used in the counties of Herkimer, Oneida, &c., in this State. Its construction is a combination of levers working together, and so arranged as to give any desired amount of pressure. A suspended weight of twenty pounds, being sufficient to give a pressure of ten tons. They can be had of Emery & Co., of the Albany Agricultural Warehouse. Price, $15.



HORSE-POWERS.

The strength of horses is successfully applied in propeling machinery of various kinds. Stationary powers, on the plan of the horizontal wheel and inclined plane, or some of the various applications of the principle of the lever, have been used many years; but it is only within a few years that much attention has been given to those of a *portable* character. The best of this description are constructed on what is called the "endless chain" plan, which possesses the advantage of applying the weight and strength of the horse in the smallest practicable space. They are made for the use of either one or two horses at the same time, according to the power required. They are used for threshing grain, sawing wood, and other purposes. They are manufactured in this city, from whence great numbers have been sent to all parts of the country.

SIMPLE REMEDIES.

The following, with the exception of that for the bite of a mad dog, have all been tried in the family of the writer, and found very efficacious and valuable.

Ear-ache.—Laudanum and sweet oil on cotton wool, pressed into the ear.

Corns.—Soak the feet in warm water, pare off as much as possible the horny part of the corn, then lay upon it a moistened wafer, and again upon this a piece of buckskin, with a hole cut through it the size of the corn. Renew the moist wafer twice a day, and in a very few days the corn will work out. This cure is complete.

Bee Sting.—Apply mud.

Ringworm.—Apply repeatedly a paste of common gunpowder with water.

Bruises.—If the skin is not broken, camphor in spirits will soon remove soreness and inflammation; if the skin is broken, apply cold water repeatedly; if large and painful, apply warm water.

Burns.—Small burns are completely cured in fifteen minutes, by holding on a piece of ice or snow, if applied instantly, before inflamed any.

Stopping Blood from a Cut.—Apply lint, or flour with lint.

Curing a Cut.—Sewing up a cut, by taking a fine stitch into the insensible skin, from each side alternately towards the cut, will cure it usually in *one-quarter* the time otherwise required for its healing.

Sores from Cuts, are rapidly healed by means of the substance sold by druggists and known as *Coryle Extract*.

Bite of Mad Dog.—Wash and cleanse the wound at once, and apply to every part dry nitrate of silver or lunar caustic. Every family should have a stick of it. This destroys both the poison and the flesh it touches, which comes away. If the wound is deep, sharpen the stick, that it may reach every part. William Youatt, author of the celebrated treatises on dogs, cattle, &c., was repeatedly bitten during his lifetime by mad dogs, mad cats, &c., but always cured the wounds in this way.

Croup.—Ipecac and nitre has proved immediately effectual in all cases, and in a multitude of instances in the family of the writer. Let it be prepared by the druggist, and the precise size of the doses carefully observed—to be repeated every quarter hour till vomiting is produced.

Mustard Plasters are admirable for any local inflammatory disease, as *pleurisy*, *headache*, &c. They are often prepared wrong. The best way is to mix equal portions of ground mustard and Indian meal, and then pour on *boiling* water, so as to make a thick paste. Spread it on cotton cloth the intended size, and then lay on its face a piece of bookmuslin or lace, which will prevent its sticking.

Blisters are equally efficacious and incomparably less severe, when the plaster is removed before the blister has become filled, and while large white pimples are just making their appearance. Cabbage leaf is then applied, and the blister fills in a few hours, and is attended with very little pain.

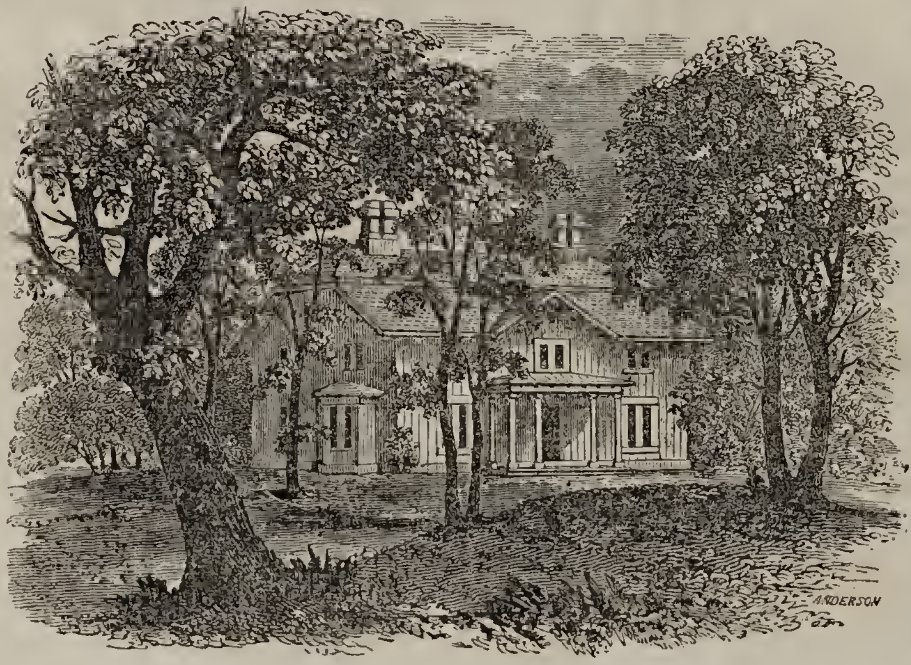
Severe Burns, accompanied with blistering or the removal of the skin, may be healed by the following admirable remedy. Pulverize the soft portion of a slice of bread, and boil it with sweet milk till it forms a soft paste. Spread it on a cotton cloth, and lay over the surface of this poultice a piece of bookmuslin, and then grease it with clean lard, to prevent sticking to the sore. Then, before applying, sprinkle thinly and evenly over it a little morphine and sugar of lead. This forms a very soothing and healing application.

REMEDIES FOR POISONS.

Preventive.—See that every vial or paper of medicine in the house is accurately and conspicuously marked, to prevent mistakes. If not already done, let the reader throw down this Almanac at once, and before eating another meal, or sleeping another wink, mark every thing in the house immediately. If there is any uncertainty about any thing, throw it far away. For the want of this care, nearly all the deaths that occur from poisoning originate.

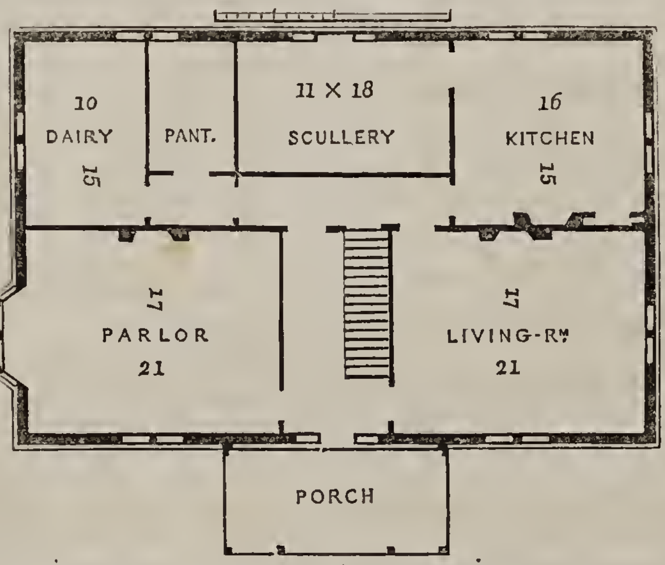
DESIGN FOR A BRACKETED FARM-HOUSE.

We give on these two facing pages, two designs for country residences, taken from A. J Downing's late work on "Country Houses." The first, costing from $1,500 to $2,000, for the farmer in comfortable circumstances—the second costing $6,000 or $7,000, for the more wealthy class.



I. BRACKETED FARM-HOUSE, OF WOOD.

The impression, says Downing, (from whom this account is condensed) which this house produces, is that of a roomy, substantial, comfortable, and sensible house. It looks essentially like a country house, and while it has rather more dignity than most farm-houses, there is neither ambition nor ostentation visible in its exterior. On the contrary, the rather low and broad chimney stacks, and the truncated gables, show that there is a desire to avoid any especial affectation of elegance. It is, in short, a design which may be built in any part of the Union, and would be recognized as a country house of some importance—while it has no feature out of keeping with the position and life of a farmer in independent circumstances.



The interior arrangement of the first floor will be mainly understood by the plan annexed. The back door opens into the *scullery*—which may be a wash room or back kitchen. The passage from the kitchen to the dairy is lighted by a small sash of ground glass, placed in the partition of the scullery, exactly opposite the back door Where there is a separate building for a dairy, this may be turned into a bed room or nursery, making the pantry a milk room, and diminishing the size of the scullery.

On the second floor, a very similar arrangement is adopted. The room over the parlor being made into two by a partition, six bed rooms are afforded above stairs, all of which are entered from the passage directly over the passage on the main floor The roof being large and hipped, gives a spacious garret, which may be made into three bed rooms for workmen—or four, if a gable like that in front is formed on the rear roof. The porch is nine by twenty feet.

A cellar is under the whole, and there should be a back porch, large enough to contain, or at least to communicate with a wood-house.

The first story is eleven feet in the clear, the second nine feet — The rooms are finished with brown walls, for white-washing—the windows and doors finished with plain architraves, with simple back mouldings—the doors with four pannels on the first and second stories—the whole executed in a simple, plain, and substantial manner.

With planed and matched weather-boarding, and the whole filled in with brick, the cost at Newburgh is estimated at $2,000. At Rochester, where lumber is somewhat cheaper, the estimate, without any filling in, and without blinds or shutters, is $1,477.

A too frequent defect in cottages is pointed out by Mr. Downing, who says—"The cottage is not made to express, as much as possible, the simplicity of cottage life, joined with the greatest comfort, intelligence and taste, of which life is capable, but to imitate as closely as cheap and flimsy materials and a a few hundred dollars will permit, the style and elaborate ornament of the villa, with its expenditure of thousands. All ornaments which are not simple, should be at once rejected; all flimsy decorations, are unbecoming the house of him who understands true cottage life."

HOW TO GROW RICH.

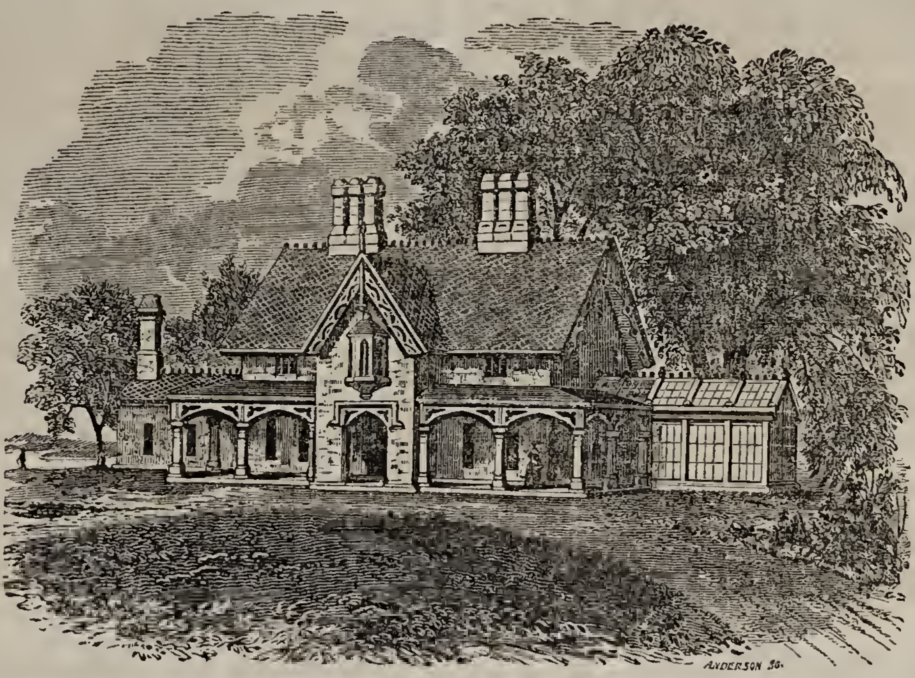
It is a sound remark, suited to all latitudes and meridians, and to all countries, tropical and frigid, savage and civilized, that men do not become rich by what they *get*, but by what they *save*. The merchant who sells by the thousand per day, and saves but one per cent, retains no more than he who sells by the hundred and saves ten per cent. For the same reason, some farmers with a few acres, actually make more than others on large farms. Let each farmer, then, begin the year by looking closely to the causes of waste. For instance—how many tons of hay are trodden under foot and wasted in ten years by his cattle, for want of feeding racks? How much is he yearly losing by a waste of manure—or, in other words, by making only half the manure he might? How much food is consumed needlessly in a year, to keep his cattle and sheep warm in winter, in exposed yards—one-third more being needed than in good shelter? What is lost for want of a good straw and stalk chopper? What amount is wasted for want of cleanliness and comfort for all domestic animals? What is the loss by the backward under-current, gradually lessening the worth of his farm by over-cropping and under-manuring—and by a want of a good rotation of crops? How much is he losing by not knowing the best mode of attaining all these desirable purposes—by not knowing how others have done it best—and which is so readily and thoroughly learned through a good agricultural paper?

◆

Constant dropping wears away stone; by diligence and patience, the mouse ate in two the cable; and little strokes fell great oaks.

DESIGN FOR A COUNTRY HOUSE IN THE POINTED STYLE.

A sensible, solid, unpretending country house, with an air of substantial comfort and refinement, indicating intelligent domestic life in the country, is exhibited by this design. The broad and massive veranda—the full second story, overshadowed by the overhanging eaves—the steep roof, to shed the snow, and afford a well ventilated attic, and the tasteful and convenient appendages of conservatory for plants on one side, and kitchen offices on the other,—these are all expressive of the comparatively modest but cultivated tastes and life of substantial country residents in the older parts of the Northern States.


ANDERSON SC.

II. COUNTRY HOUSE IN THE POINTED STYLE.

The windows are plain box frames, with rising sashes, and outside blind shutters, adapting them precisely to our climate. To take away, however, the ordinary *Venetian* expression of common shutter blinds, the slats for this are made much wider and bolder than usual, and the entire shutter is stained or painted a rich brown or dark oak color.

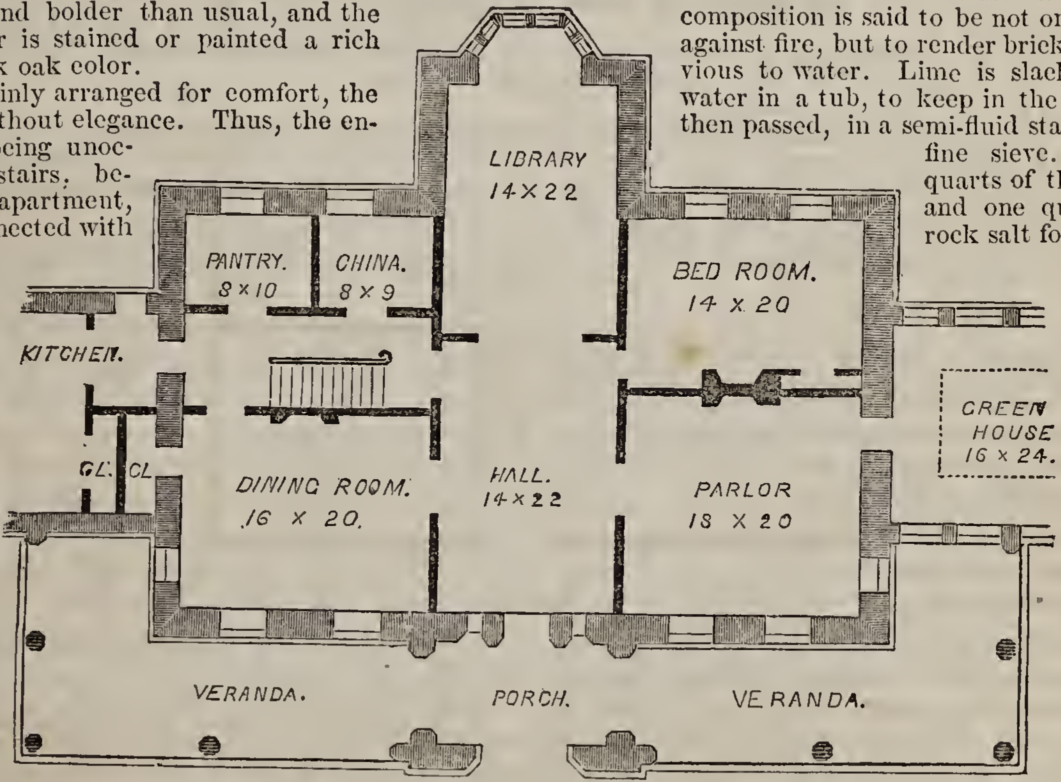
Though mainly arranged for comfort, the plan is not without elegance. Thus, the entrance hall, being unoccupied by stairs, becomes a fine apartment, and being connected with a library of equal size, by large sliding doors, the effect of this suite of forty-four feet, when thrown into one, will be very agreeable on entering the house.

The green-house may be heated by the same furnace which heats the house—a ten inch hot-air pipe and a large register, running through the basement and entering by the floor or side of the green-house.

The second floor contains five large and excellent bed rooms, with a dressing room over the china closet, and a bath room over the pantry. The bed room over the hall is lighted by a fine oriel window, projecting over the front door.

This design demands solid walls, either of stone or of brick, colored or covered with cement. The hight of the rooms in the first story is thirteen feet; in the second, nine feet. If built with hollow walls, it will need no firring, and the partitions being eight inch walls, it will be nearly fire proof, and may be built about as cheaply with brick as with wood.—The cost, finished in the very best manner, would be from six to seven thousand dollars.

WASH FOR BUILDINGS.—The following composition is said to be not only protective against fire, but to render brick work impervious to water. Lime is slacked with hot water in a tub, to keep in the steam. It is then passed, in a semi-fluid state, through a fine sieve. Take six quarts of this fine lime, and one quart of clean rock salt for each gallon of water, the salt to be dissolved by boiling, and the impurities skimmed off. To 5 gals. of this mixture add 1 lb. alum, ½ lb. copperas, ¾ lb. potash added gradually, 4 qts. fine sand or hard wood ashes, and color to suit the intended purpose.



CORN FOR FODDER.

ONE of the most profitable crops which the farmer can raise, is corn for fodder. Every one which we have known, who has tried it the right way, declares he cannot possibly do without this crop; one ton of the dried fodder being nearly double the value of common cornstalk fodder. One of our neighbors lately assured us that he would rather have three tons of this for his cows, than four tons of the best hay. And yet, we have repeatedly raised it at a dollar and a half per ton when cured and dried, including in the cost, the interest of the land. It may be sown the first half of June.

Directions.—Plow and harrow—furrow with a one-horse plow in one direction, $2\frac{1}{2}$ or 3 ft. apart—strew from a half-bushel hand-basket, at the rate of three bushels of seed per acre, along the furrows—cover with a harrow or cultivator run lengthwise—pass the one-horse cultivator between the rows when the corn is a foot high; all the weeds will soon be smothered by the corn, and no hoeing is needed. Mow, bind, and dry very thoroughly. Make very small stacks, to prevent heating—salt well. Four to six tons are yielded by one acre—the stalks being fine, all are eaten. Do not sow broadcast.

BENEFITS OF AGRICULTURAL PAPERS.

That most excellent maxim, "*make yourself acquainted with the business of your profession*," is no less applicable to the Farmer, than to men in other vocations. The question very properly arises here, how can this knowledge be most readily acquired? We answer, by observation, by conversation with, and by reading the writings of each other. "*See what others are about*," was the advice of a very successful farmer and stock-breeder. This should be done by *every opportunity*. There are some, who are inclined to distrust information derived from books and papers; yet they would not hesitate to adopt the same ideas if communicated by conversation. Is not this distrust, then, owing to an ill-founded prejudice and jealousy? But while we would urge the importance of inquiry, we would by no means advise a credulous assent to every story which may be heard or read. The minds of farmers should be so enlightened that they may be capable of judging for themselves, and by a careful discrimination, be able to select what is really useful and applicable to *their* peculiar condition. It is only by OBSERVATION, by READING, STUDY, COMPARISON, and REFLECTION, that this important faculty of discrimination can be acquired.

We recommend Agricultural Papers, as furnishing the best medium of communication among farmers. It is not the province of these papers to assume the character of *arbitrary teachers*. They should rather be regarded as furnishing to farmers a medium for the mutual interchange of ideas on the various subjects of practical husbandry. Each gives his views, his practice, or the results of his observation. These remarks, thus embodied and disseminated, furnish every man in turn an opportunity of comparing his own ideas and practices with those of others, by which *truth* can hardly fail of being perceived.

In choosing an agricultural paper, it becomes an important object to obtain that one which furnishes the GREATEST AMOUNT OF VALUABLE INFORMATION. The more extensive the circulation of a paper, and *the greater the number of practical farmers* engaged in its correspondence, the greater, of course, are its facilities for collecting and disseminating information, and the stronger are the inducements for patronage. Among the numerous agricultural papers of the country,

"THE CULTIVATOR"

must be considered as holding a prominent position. The number of different contributors to this publication in the course of the year, is very large; embracing some of the most successful farmers and gardeners of every State in the Union, as well as several in Europe, the Canadas, New-Brunswick, Nova Scotia, &c. These extensive facilities of correspondence, together with the advantages furnished by all the English and Scotch periodicals, enable the conductors to render the Cultivator a most valuable organ of communication to the farmers of every section of the country. The discoveries of scientific men, so far as practically tested, are from time to time made known—notices are given of all new and useful implements, illustrated by cuts—descriptions and engravings of choice Fruits—improved Plans of Farm Buildings—and correct Portraits and descriptions of Domestic Animals, Horses, Cattle, Sheep, Swine, and Poultry. It is the special aim of the conductors, to give PRACTICAL VALUE to the contents of The Cultivator, and the success of their efforts is shown in the liberal patronage the work has received. The pecuniary value of a single article, is often ten times more than the price of the volume.

Speaking of the advantages of agricultural papers, Mr. Widney says: "By reading the Cultivator for the last eight years, I have derived a cash profit of at least *fifty dollars per year*, in the way of improved cultivation and farming economy generally."

"An intelligent and well informed gentleman from the South," says Hon. Z. Pratt, "once asserted that through the influence of the Albany Cultivator alone, the wealth of that part of the country had been increased more than two millions of dollars."

Dr. J. W. Thomson, of Newcastle, Delaware, says that the influence of the agricultural society of that place, (largely assisted by the circulation of agricultural papers) has, in ten years, been the means of *doubling* the crops, or of adding more than a *million dollars* to the value of the stock and real estate of that county.

A correspondent in Otsego county, N. Y., says: "Owing to the circulation of agricultural papers, principally the Cultivator, in this section, within the last ten years, a decided improvement in the following, among many other things, is observable, viz: The operation of plowing is more neatly and thoroughly performed; more attention is paid to making, preserving, and application of manures, and an increase in the corn crop to 20 or 30 per cent."

Joel Hall, an excellent farmer of Williamson, Wayne county, N. Y., says: "I save every year, at least four times the cost of subscription, by reading the Cultivator."

A farmer in Beaver county, Pa., says, that by the information derived from the Cultivator, he has succeeded in doubling his corn crop.

Another says: "I have received benefit enough from The Cultivator this season, to pay for it five years, by way of fattening hogs on apples and bran."

Another, being asked to subscribe, said: "It has saved me more than it has cost me. I offered a dollar an acre for mowing my peas; but seeing a way mentioned to gather them by a horse-rake, I tried it, and in half a day had two and a half acres in snug winrows."

A subscriber in Chautauque county says: "I have gained enough from two short articles in your paper, to pay for it five years. One was to prevent smut in wheat; since I adopted your rule, I have not raised a head of it, while one of my neighbors had six bushels of smut on two acres."

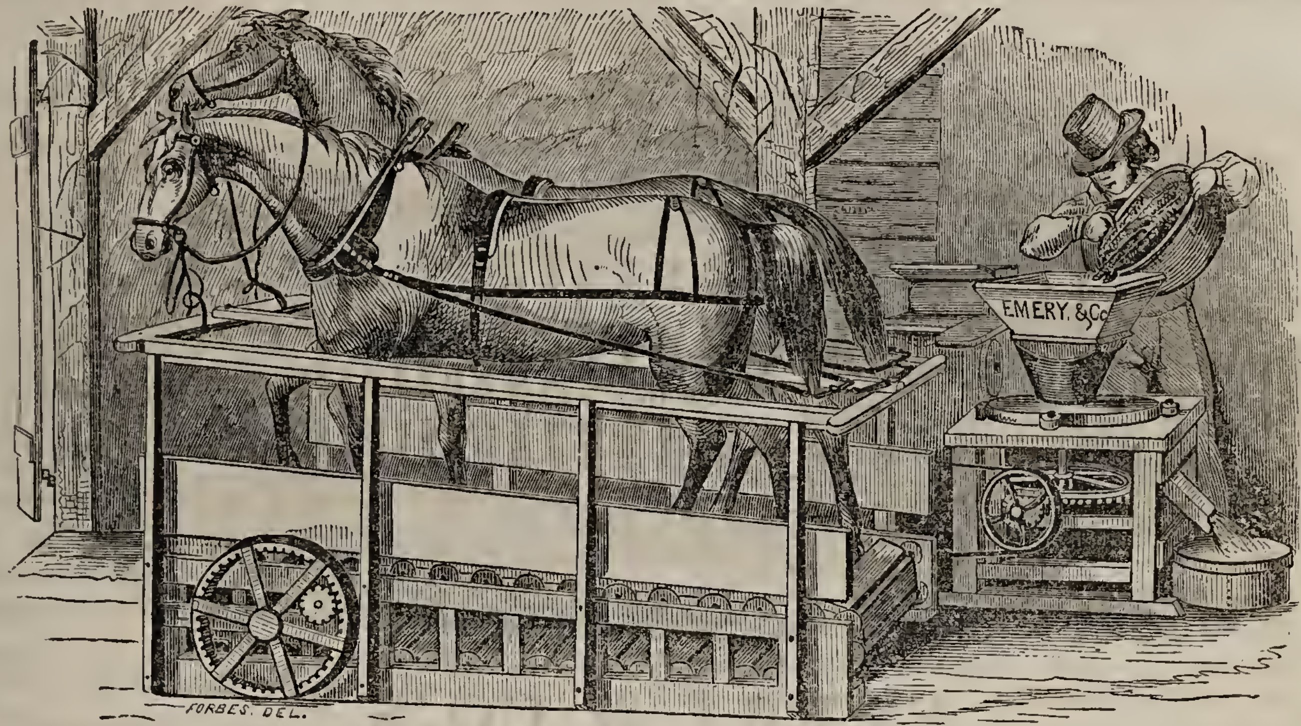
PLANTING.

A Table showing the number of Plants required for one acre of land, from one foot to twenty-one feet distance from plant to plant.

Distance. Ft.	In.	No.	Distance. Ft.	In.	No.	Distance. Ft.	In.	No.
1	0	43,550	6	0	1,210	12	0	302
1	6	19,360	6	6	1,031	13	0	258
2	0	10,890	7	0	889	14	0	223
2	6	6,969	7	6	775	15	0	194
3	0	4,840	8	0	680	16	0	171
3	6	3,556	8	6	602	17	0	151
4	0	2,722	9	0	538	18	0	135
4	6	2,151	9	6	482	19	0	121
5	0	1,742	10	0	436	20	0	109
5	6	1,440	10	6	361	21	0	99

WEIGHTS OF EARTHS, METALS, &c.

A cubic foot of loose earth or sand, weighs 95 pounds.
A cubic foot of common soil, weighs 124 pounds.
A cubic foot of strong soil, weighs 127 pounds.
A cubic foot of clay, weighs 135 pounds.
A cubic foot of mason's work, weighs 205 pounds.
A cubic foot of distilled water, weighs 62.5 pounds.
A cubic foot of cast iron, weighs 450.45 pounds.
A cubic foot of steel, weighs 489.8 pounds.
A cubic foot of lead, weighs 709.5 pounds.
A cubic foot of platina, weighs 1,2 8.75 pounds.
A cubic foot of copper, weighs 486.75 pounds.
A cubic foot of cork, weighs 15 pounds.
A cubic foot of tallow, weighs 59 pounds.
A cubic foot of oak, weighs 73.15 pounds.
A cubic foot of brick, weighs 125 pounds.
A cubic foot of air, weighs 0.0753 pounds.
A hand used in measuring the height of horses, is 4 inches.



EMERY & CO.'S

LATEST IMPROVED RAILROAD HORSE-POWER,

AND

OVERSHOT THRESHING MACHINE AND SEPARATOR,

TO WHICH WAS AWARDED

THE FIRST PREMIUM

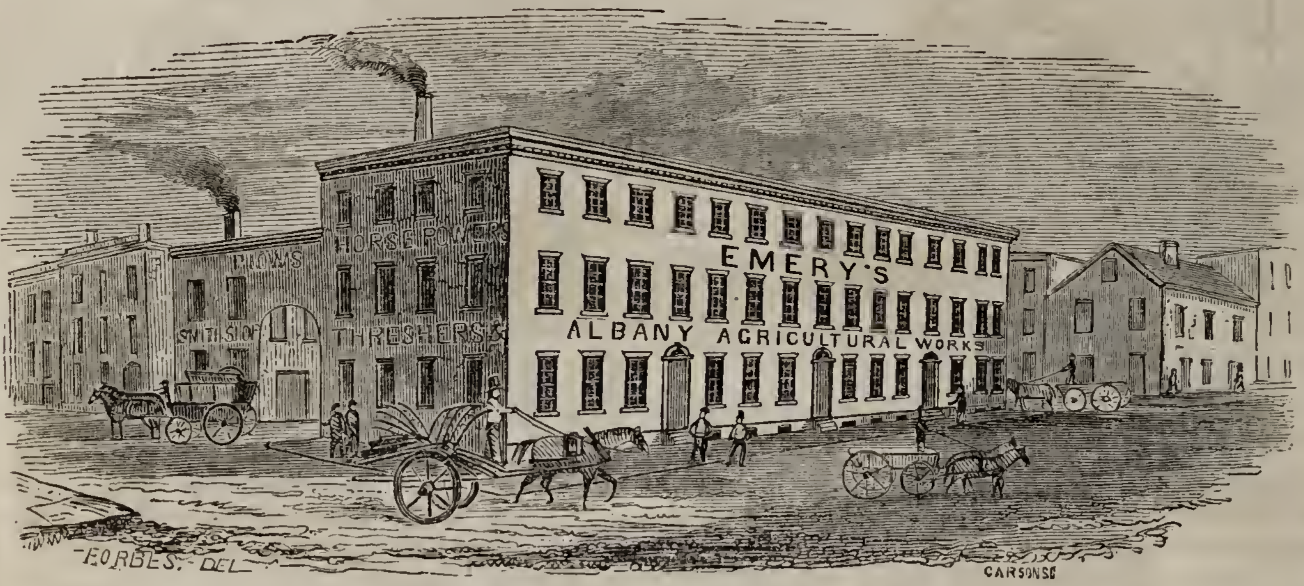
OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.

THE subscribers are gratified to be enabled to present the public with the best possible testimonial of the superiority of their *Recently Improved Railroad Horse-Powers*, in the form of the *First Premium* of the New-York State Agricultural Society, at their Annual Fair, held near Albany, on the 3d, 4th, 5th, and 6th of September, 1850, where they were exhibited each day in competition with Wheeler's latest Improved, (still made and sold by us) and the principal other approved Powers, on the endless chain principle. After being thoroughly examined by a competent committee of practical Farmers and Mechanics, the committee (unbiassed by former awards of the Society to some of the kinds on exhibition) unanimously awarded the Society's *First Premium*, *of Money and Diploma, to* EMERY & CO., *for superiority of mechanical construction*, *strength*, *durability and power*. The above cut represents this most useful Machine, FOR WHICH PATENT HAS BEEN SECURED, with the latest improvements, embracing some of great importance, which have suggested themselves from time to time, as the various kinds made and sold by us have become used, worn, or failed.

The most important of these consist principally in the new mode of applying the power and motion from the endless platform to the shaft of the main driving pully, and obtaining the necessary motion for the Overshot Threshing Machine, without crossing of bands or intermediate gearing, and at the same time dispensing with the small pinions and cogs upon the links of the endless platform, thereby combining greater strength and durability with lighter friction, without the liability of breakage of links, or the wearing of links and pinions, (no small item in the expense of repairs in most other kinds of powers in use.) The farmer or mechanic is enabled to perform a greater amount of work, and to operate them with less expense of power or elevation, as best suits his wishes.

They were introduced to some considerable extent in the harvests of 1848 and 1849; and wherever used, side by side with the most approved Powers of other kinds, have given unqualified satisfaction and been preferred.

The Overshot Thresher and Vibrating Separator, with improvements, have been sold with like success as the Powers. They admit of a level feeding table, thus avoiding accidents, which often occur with the inclined feeding board, by preventing hard substances, sticks, and stones, from getting into the machine and breaking spikes, endangering those engaged with them. The cylinder shaft (cast steel) runs in bronze boxes, which are so made of two parts as easily to be adjusted when worn loose, and can with little trouble always be kept tight. The speed of the power is such that a larger pully is used on the Thresher than on most others—driving stronger, with less liability of slipping of bands, which last are made of vulcanized India rubber. The Separator makes a complete separation of grain from straw, leaving it in best condition for the fanmill; saving the labor of several men, and doing the work better. Fanmills of various sizes, for hand or fitted to be driven by the power at the same time. For further particulars, prices, &c., see Catalogue of Albany Agricultural Works, Warehouse and Seed Store; gratis, on application by mail or otherwise, to **EMERY & CO.**, 369 & 371 Broadway, Albany.



EMERY & CO.'S

ALBANY AGRICULTURAL WORKS,

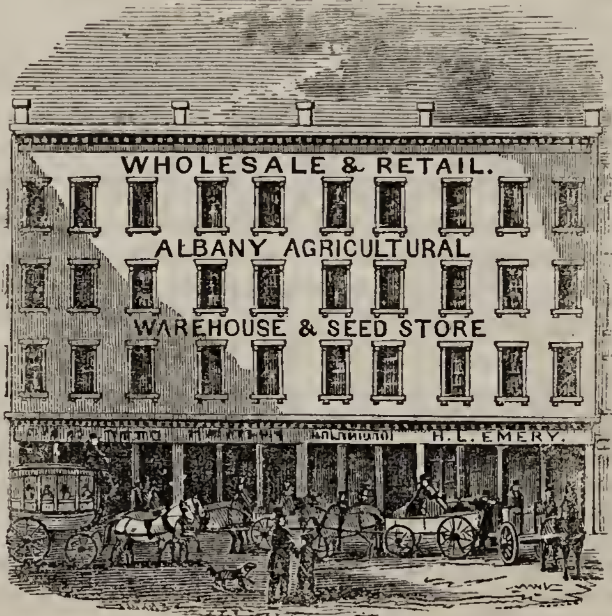
CORNER HAMILTON, LIBERY, AND UNION STS.

WAREHOUSE AND SEED STORE,

Nos. 369 & 371 BROADWAY,

ALBANY, N. Y.

THE subscribers having long been engaged in the manufacture, sale, introduction, and use of Agricultural Machinery and Implements of Husbandry, as also in the Seed trade in the largest establishments in New-England; and for four years past enjoyed a liberal patronage as Proprietors of the above establishment in this city, and at all times adopted such improvements as from observation and experiment have seemed desirable and necessary, they feel confident that the stock of Implements, Machines, Seeds, &c., now offered by them, is equal, if not superior, to that of any similar establishment in the country. Their facilities for manufacturing, since the erection of their extensive works in this city, are not excelled by those of any other manufacturers in the United States.


WHOLESALE & RETAIL.
ALBANY AGRICULTURAL
WAREHOUSE & SEED STORE
H. L. EMERY.

Their Warehouse and Seed Store is one of the most spacious in the city.

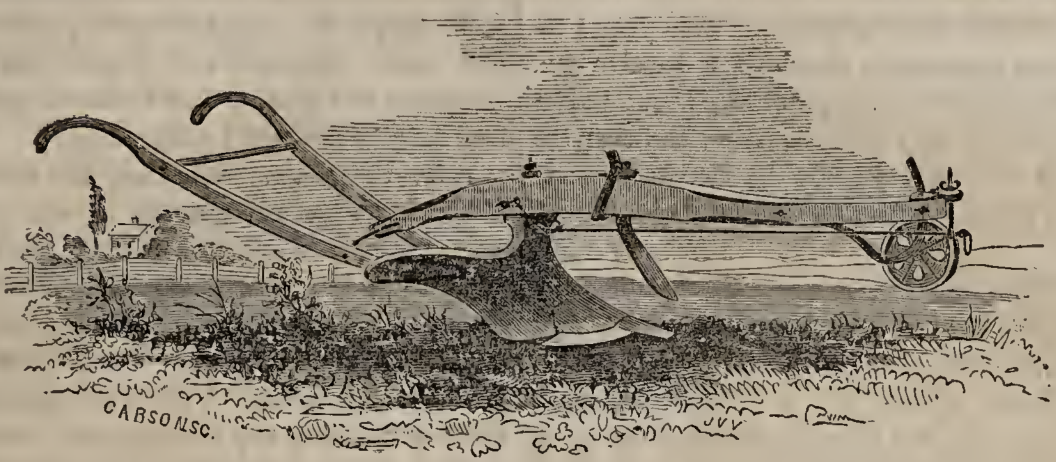
They pledge themselves that they will continue, as heretofore, to recommend and sell only such articles as are really worthy of introduction and use, or seeds that are valuable to be grown; and are willing to stake their reputation as manufacturers and dealers, upon the merits and satisfaction given by such articles as are sold by them; all of which they feel no hesitation in warranting to the purchaser.

Their Descriptive Catalogue, containing upwards of 100 finely executed engravings, delineating many of the leading articles of the trade, as also descriptions and prices, will be furnished gratis to all, on application by mail or otherwise.

Farmers and dealers will find it to their interest to examine our stock and prices, before purchasing elsewhere.

EMERY & CO.,
Nos. 369 *&* 371 *Broadway, Albany, N. Y.*

November, 1850.



CENTER DRAFT PLOW, NO. 40.

We lived as it were, inmates of the cloud and the storm, but we stood in relationship to Him who directed and governed them."

Center-Draft Plow, No. 40.

This is a new pattern, brought out by Messrs. Prouty and Mears, Boston. It is constructed with special reference to deep and narrow furrows, and may be called a stiff-soil plow. We had the opportunity of seeing it tried, in November last, on the farm of E. P. Prentice, Esq., near this city, where its operation was in the highest degree satisfactory. It was gauged to work ten inches wide and seven inches deep, and cut the furrows according to these dimensions, with remarkable exactness, running at the same time with great steadiness, and requiring comparatively little aid from the plowman. It leaves the soil in an open and friable condition, and effectually buries the vegetation.

First Wheat raised in Western New-York.

Eds. Cultivator—In the commencement of the summer of the year 1788, about twenty men, some of whom were accompanied by their families, met at Schenectady, in New-York, and embarked on batteaux for the western part of the State. They were followers of Jemima Wilkinson, who styled herself the "Universal Friend," and were going to the "promised land" which three of their agents had discovered the preceding year on the banks of a beautiful lake, now called the Seneca. They had horses and wagons to use when water carriage failed. They found but two log houses at Utica, one at Whitestown or Fort Stanwix. A pioneer by the name of Jennings had just moved into a log house, which the Indians had assisted in raising, near where the Franklin house now stands, in Geneva. This was the only house in Geneva, the only one they had found since leaving Fort Stanwix. With their batteaux, they proceeded up the lake to where the Ovid Landing now is. Here they staid about a week, searching after a stream on which to erect a mill. Not being able to find one, they crossed to the west shore of the lake, about a mile south of West Dresden—were pleased with the mill seats on the outlet of Crooked Lake, and with the country. It was now the month of August, and they began the "Settlement" with vigor, agreeing to sow the first wheat in common. They cleared about 40 or 50 acres, judging that there would be two acres for each man. It was about the first of November before the wheat was sown—the quantity being at the rate of about one bushel per acre. No plow was used in preparing the ground—harrows, with wooden teeth, mellowed the newly-cleared soil, and covered the seed. It was harvested the succeeding July, and yielded about fifteen bushels per acre.

It may be interesting to add, that the first and second season, some of the settlers cut wild grass on the alluvial deposit at the head of the lake, where Jefferson now is, and conveyed it down the lake on batteaux, 25 miles, to the "Settlement." This, with what the cattle obtained from shrubs and trees, enabled them to live through the winter. I should have stated that the ground first sown, is now under cultivation, and often produces 30 to 40 bushels of wheat per acre. It belongs to Joseph Ketchum and Robert Norman. S. B. Buckley.
West Dresden, Yates Co., N. Y., Nov. 11, 1850.

"Small Potatoes" for Planting.

Messrs. Editors—In the November number of the Cultivator, is an article on this subject, stating that superior crops have been raised from the use of small potatoes for seed, and asking further information.

Formerly, I believed in the common opinion, that large potatoes must be used for seed, to insure a good crop; but in 1845, owing to the failure of the previous crop, I was obliged to use small ones, none larger than a hen's egg, and the result was truly surprising. The yield was about 100 bushels from half an acre of unmanured ground, and they were almost uniformly of fine size. Many hills had none that were so small as the largest I planted.

But old opinions require a long time to root them out; and ever since, my potato field has been an experimental one, to determine this point. In no case have I been able to decide that large potatoes were better than small ones for planting. This year I resolved that the experiment should be a decisive one, and therefore separated my potatoes, about half a dozen varieties, planting first the large, and then the small ones of each variety; but the rot has so nearly destroyed the crop, that the result could not be observed.

Some varieties of potatoes are almost uniformly small, with any cultivation they may receive, and they also closely resemble some of the best varieties. Now if the farmer allows any of inferior kinds to mix with good ones, and plants only small ones, the inferior varieties will obtain the superiority, and the crop will deteriorate.

A large proportion of the small potatoes which are produced, are either the result of too much seed being used, or cultivating the crop after the first set of tubers have formed, so that another set starts out of small size.

The opinion, therefore, which I have formed, is, that small potatoes of a good variety, are at least equally good with the large ones for seed. T. S. Gold. *Cream Hill, Ct., Nov.* 4, 1850.

Wool and "Gum."

Eds. Cultivator—I have read your remarks upon the Addison county sheep, published in the November number of the Cultivator. To your inquiry as to the object of producing so large a quantity of that gummy matter, you were, you say, answered that it was considered "profitable so long as the manufacturers or their agents would pay for it at the same price per pound as for wool." This answer somewhat surprised you. I formerly believed that *wool* was what a manufacturer wished to purchase under the denomination of wool, and I supposed that if their business required the use of oil, or gum, or grease, they would prefer purchasing those articles separately, as it is somewhat difficult to ascertain the exact proportion that the wool bears to the grease and gum.

I have carefully perused an article published in the *Vermont Mercury*, written by J. M. Colburn, Esq., of Springfield, Vt. He is a large wool-grower, and has for many years been a large purchaser of wool for the eastern manufacturers. He speaks of a noted buck which produced annually a fleece weighing from eleven to twelve and a half pounds. He purchased the clip of wool which belonged to this remarkable buck. The manufacturer directed his stapler to ascertain the quantity of wool that fleece contained. The fleece, before cleansing, weighed eleven and a half pounds, and there proved to be precisely *four pounds* of wool, harsh and ordinary in quality, though in its first state it appeared rather fine. He gives also the relative loss of three other lots of wool. The first lot 27 per cent, the second 35 per cent, and the third 41 per cent, by cleansing. I examined two lots of wool purchased in this town at 40 cts per lb. One lot was in good condition, and fine wool; the other very harsh, and much mixed with gum and grease, and I should judge it would lose near 50 per cent by cleansing.

With these facts before me, and having a knowledge of the general practice of wool-purchasers, I am not sure the Addison county wool growers do not act wisely. I will admit, that with 40 years' experience as a wool grower, I have not been able to learn wherein the value of this great quantity of grease and gum lies. This is an important subject, and one in which the wool-grower must feel a deep interest. I hope, therefore, you will obtain, if possible, the services of Professor Norton, to make an examination and analysis of this matter. He possesses a remarkable talent of presenting a subject in such a way as to appear clear to any mind of common capacity, and if he can, with his superior knowledge of chemistry, show the wool-grower wherein consists the great value of this gum and grease in wool, he will add as much to the interest of sheep husbandry, as he has already done to other branches of agriculture. J. S. P. *Vermont, Nov.*, 1850.

Devon Breed of Cattle.

Eds. Cultivator—The first Devon cattle, of pure blood, that I ever saw, were brought into Litchfield county, Connecticut, by Lemuel Hurlbut, Esq., about 30 years ago. Their color was a pure mahogany-red, free from white, except the brush of the tail. They had short heads, broad across the eye, with long, slim horns, standing high upon the head. I was very much pleased with them, and commenced crossing from them, first with the Heaton breed of cattle, and afterwards with the Durham, introduced by the late Henry Watson, of East Windsor, Ct. About seven years ago, I purchased the pure blood bull Matchless, bred by Col. White, of Danbury, Ct., and also a cow and heifer of Mr. Hurlbut. Since that time, I have purchased a number of females from the stock of Col. White, all free from visible marks of impure blood. I have for several years endeavored to carry out the principles of thorough breeding. I do not claim that all my stock are of pure blood, but I have a number that are entirely unmixed Devon. A part of my stock are crossed, as before mentioned. I never saw any white on a pure Devon, except at the end of the tail, till within the last few years.

Some fresh importations have now been made, and it is thought by some, that we should cross those bred in this country with those lately introduced. It is, however, important to breed from animals which show no impurity of blood. Some animals of the late importations, show some points which are different from what I have heretofore regarded as indicating pure blood. I do not say they are not pure, but as they are in some respects different from the Devon stock we have before had, I wish the subject explained. For example, I have seen two large and fine heifers, of a bright red color; the skin about the eye and bag, not a cream color, as with the first of our Devons. They resembled those of the first stock crossed with the Heaton breed. I have also seen a very large and fine yearling bull, imported the past season. He is well formed, has good limbs, a round neck, long face, narrow across the eyes, thick horns, a white skin, and some white hairs under the belly. He resembles animals I have seen which were a cross of Devon and Durham.

I have been told that the Devons have been bred in England, latterly, chiefly for beef. In this country, we should have three objects in view in breeding stock. The first and most important is the milking quality; second the working quality, and third the fattening quality, as all are designed for beef at last. It is of the greatest importance that we breed our Devon stock with both milking and working qualities. In selecting stock for the dairy, a yellow skin is important; those cows which have a white skin are likely to give thin and poor milk; and it is also important that our male animals should come from good milking families. J. N. Blakeslee. *Watertown, Ct.*

It will not be denied that there is a difference in the points and markings of some of the Devons lately imported, and those imported thirty years ago; but we do not think it necessary to conclude that this difference has been occasioned by a cross with the short-horns, or any other breed. Breeders have different standards, and this occasions, in a few generations, a corresponding difference in the points of animals of the same original stock. For instance, if two men were to purchase of our correspondent, ten of his Merino sheep, and should continue to breed from the stock without the least admixture—the one endeavoring to produce sheep with long, narrow faces, and the other those of an opposite character; is it unreasonable to believe that after thirty years, there would be a marked difference in the two families thus bred?

The qualities which should be chiefly regarded in stock, depend on the circumstances of the breeder. The relative value of milk, beef and labor, must determine which shall be the primary object.

The stock alluded to by our correspondent as the "Heaton breed," was probably derived from the short-horns imported by Robert Heaton of Throgg's Neck, Westchester county, N. Y., in 1792, and which were obtained by him of the celebrated English breeder, George Culley, author of *Observations on Live Stock*, &c. Eds.

◆

Number of plants Eaten by different Animals.—It has been calculated that

The Cow	eats	276	plants, and rejects	218
Goat	do	449	do	126
Sheep	do	387	do	141
Horse	do	262	do	212
Hog	do	72	do	271

National Agricultural Bureau.

We are much pleased that the establishment of an Agricultural Bureau has been recommended by President Fillmore in his late message. The report of the Secretary of the Interior, Mr. Stuart, also takes up the subject, and urges the formation of the new Department by sound and cogent reasoning. The suggestion in regard to the purchase of the estate of Gen. Washington, we hope will be seconded by all who cherish the memory of that eminent patriot, by whose far-seeing wisdom, a National Board for the improvement of Agriculture was first recommended. The following remarks of Mr. Stuart, we trust will receive the consideration to which they are entitled:

In surveying the various interests of the country, no one can fail to observe how little has been done by our government to promote the cause of agriculture. It is true, the cultivator of the soil, in common with all other classes of society, enjoys the protection of the laws and the blessings incident to good government But something more seems to be due to a branch of industry which employs more than half our population, and, to a great extent, sustains the other.

The power of the general government over this subject is limited, but this furnishes no good reason why it should not be exercised so far as it does legitimately extend.

The ordinary means adopted to afford protection to the manufacturing and commercial interests are comparatively inoperative in regard to the agricultural. A tariff can do but little, directly, to benefit the farmer or the planter.

The staple productions of the South are peculiar to that climate, and therefore are in no danger of competiton from abroad. Those of the North and West, in consequence of the fertility of the soil and the low prices at which land can be bought, are produced at less cost there than in other countries, and consequently, except under extraordinary contingences, need no protection by imposts on the breadstuffs of foreign nations.

But still much may be done by government, at small cost, to promote the interests of agriculture. The science is yet in its infancy, and great minds are now directed to the study and development of its true principles. Experiments are in progress to ascertain the qualities of different soils; the comparative nutriment of vegetable productions; and the utility and efficiency of various manures in fertilizing and renovating the exhausted lands of the old states.

Encouragement may be afforded to enterprises like these, and facilities furnished for the collection of seeds plants, and vegetables from all parts of the earth, and their distribution throughout the country.

Premiums may be offered for the best practical treatises on the different branches of husbandry, which can be published and sent abroad among the people. By means like these, a spirit of philosophic inquiry may be stimulated, and a great impulse given to the interests of agriculture. Much has already been done in this respect, through the agency of the Patent Office; but the subject is too important to be left in this dependent condition. The last annual report from the department, recommended the establishment of an Agricultural Bureau, to afford to this great branch of American industry the encouragement which it so well deserves. This is no novel suggestion. It had the sanction of Washington, who, in his last annual message, referring to the propriety of creating an Agricultural board, said:—' This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common center the results, everywhere, of individual skill and observation, and spreading them thence over the whole nation. Experience accordingly has shown that they are very cheap instruments of immense national benefit."

I therefore renew the recommendation of my predecessor for the establishment of a separate bureau, to be entrusted with the duty of promoting the agricultural interests of the country. The vast extent and rapid development of the mineral resources of the country seem to require that adequate provision should also be made by law for the collection and analysis of the various mineral substances which have been, or may be discovered, so that their properties may be understood, and their value correctly appreciated.

The purchase of a farm in the vicinity of the national metropolis, to be tilled and managed under the direction of the bureau, has been suggested as an important auxiliary in illustrating the best modes of culture. If this idea should be favorably received, I would respectfully add that Mount Vernon, whose soil was once tilled by the hands, and is now consecrated by the dust, of the Father of his Country, should properly belong to the nation, and might, with great propriety, become, under its auspices, a model farm to illustrate the progress of that pursuit to which he was so much devoted.

◆

Economy of Manures.

We have been greatly interested in the perusal of a lecture with this title, delivered by Dr. Thos. Anderson before the Highland and Agricultural Society, and published in the *Transactions* of that association. Dr. A. observes that there are many questions in regard to manures which are yet unsettled, and that these questions can only be solved by the mutual exertions of "science and practice." He says:—

"I hold it to be certain that the two must go together, and that though some of the facts we require may be determined in the laboratory, there are many questions which, though suggested by science, can only be established as facts by experiments in the field, performed with every attention to care and accuracy. I hold, also, that neither of these methods of experiment will in themselves suffice: they must go hand in hand if our results are to be of value; while separately, the chances are that they lead to mere speculations, of which science will supply one set, and practice the other."

In regard to the value of stable, or farm-yard manure, Dr. A.'s views are quite different from those of Dr. Gardner, to which we made some allusion in a late number. Dr. A. observes:—

"You will readily perceive the necessity for our directing attention to that manure in which the substances which nourish plants may be said to exist naturally; and that, of course, is farm-yard manure—the most important of all; that on which the farmer must always be dependent; and, I think I may also say, that regarding the economical management of which we have the least definite information. I beg it to be understood as my decided opinion, that farm-yard manure must always be the farmer's main stay. I am aware, indeed, that some have thought otherwise; and we have all heard of an eccentric gentlemen, who expressed his opinion that the time would come when the farmer would carry his manure to the field in his waistcoat pocket. No one now-a-days entertains such fancies; but there are people who seem still to expect that some complete substitute will be found for farm-yard manure. I can assure you, however, that any such supposition is entirely extravagant, and is certainly uncountenanced by chemistry. I do not mean to say that chemistry cannot produce a substitute, but what I mean is, that farm-yard manure must always be *much cheaper* than any substitute which could be manufactured; and the reason is to be found in the fact that the constituents of such a manure must be extracted from plants by a series of complex chemical processes, which must necessarily add greatly to their expense.

"I consider, then, that farm-yard manure is the most important of all, as the natural, cheapest, and most abundant source of the more important constituents of our plants; and that for these and other reasons, we can never expect to replace it by any artificial manure capable of performing all its functions, or serving the purposes of cultivation throughout a succession of years. Under these circumstances, the attention of the farmer should be specially directed to obtaining that manure in its best state and preserving it without deterioration."

In regard to the preservation of manure, Dr. A. remarks that much of the valuable portion of manure is lost by exposure to the air and rains. The circulation of air causes the ammonia to become volatile, and the rains wash out the soluble substances. So far as regards *volatility*, the mixing of gypsum, muck, litter, or earth, may obviate the difficulty; but the liability to injury by rains still continues. To protect the manures against both these sources of loss, keeping it under cover would be most effectual. This shelter might be secured either by a cellar under the barn, or the erection of cheap sheds over the manure heaps.

In regard to bones, Dr. A. thinks it a very erroneous notion that their action as manure is wholly owing to their phosphoric acid. He says:—

"Bones in a fresh state contain a quantity of nitrogen capable of yielding from five to six per cent of ammonia, and there cannot be a doubt that in many instances they act as much by their nitrogenous matters as by their phosphoric acid."

The instances in which burnt bones have produced striking effects, have been comparatively rare, and are confined to soils which were deficient in phosphoric acid merely.

◆

Bones for Manure.

Eds. Cultivator—I wish, in as few words as possible, to give you my experiment in dissolving bones, and their use as a manure.

I was led to make the trial by reading Professor Norton's communications. About the first of May, I bought an old molasses-hogshead, sawed it in two, and put in one half 100 lbs. of broken bones, and 50 lbs. sulphuric acid, adding about two parts water to one part of acid. I intended the bones for my corn-hills, but after turning and stirring, and stirring and turning for about three weeks the bones were about as whole as ever, except what had worn off in stirring. I then abandoned them, as planting was done, and other business required my attention.

After hoeing, having a little more leisure, I made some examination, and came to the conclusion that the acid was poor, or else I had added too much water. I then added 18 lbs. acid, and in three or four days I had a fine tub of paste. I was then at a stand, as was our friend Hutchins, of Vermont, what to do with it, as the season was so far gone, but I made up my mind to put it on my potatoes, which I was then hoeing the second time; and for experiment, I put it on every alternate row—about a large spoonful to a hill.

When I dug the potatoes, I weighed ten hills in a row, for 12 rows, through the most equal part of the field, and now give you the result, as follows:

	Dissolved Bones.	*Nothing.*
First row,	$8\frac{1}{4}$ lbs.	$6\frac{3}{4}$ lbs.
Second row,	$7\frac{3}{4}$	$6\frac{1}{2}$
Third row,	$8\frac{1}{2}$	7
Fourth row,	$7\frac{1}{2}$	$6\frac{3}{4}$
Fifth row,	$7\frac{1}{2}$	$5\frac{1}{2}$
Sixth row,	$7\frac{1}{2}$	$8\frac{1}{2}$
	47 lbs.	41 lbs.

Making a difference in favor of the bones, of near 15 per cent. The 100 pounds was used on every alternate row on three-fourths of an acre, making three-eighths of an acre, hills two by three feet apart, which gives 7,260 hills to an acre, or it was put on 2,722 hills. The 60 hills without manure, made 41 lbs, which, allowing 62 lbs. for a bushel, would yield 80 bushels to an acre, and the manured or boned part would give 92 bushels to an acre; an increase of 12 bushels to an acre, which at 50 cents per bushel, (mine are selling quick at that,) would give an increase of $6 per acre.

Allowing 60 lbs. of acid to 100 of bones, which I think would be sufficient, it would require 160 lbs. to an acre, and it may be bought in Boston, New-York or Hartford, for 2½ cents per lb,...... $4 00
Use of carboy,........................... 25
$4 25

leaving $1.75 for tub, freight, trouble, &c.

In this instance, one would be well paid for all trouble in the increased *size* of the potatoes. My children, in their simplicity, remarked that they should suppose that one parcel was selected from the other.

The crop was on a worn-out, sandy plain, without manuring, which will account for the smallness of the crop; but I think the strength of the manure is not all gone yet.

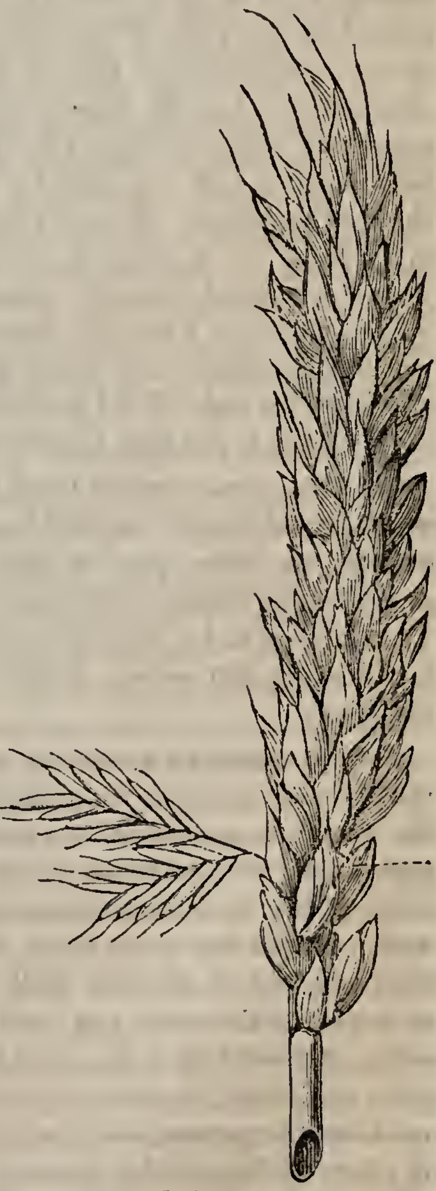
It being dry weather when the paste was made use of, it soon became dry, like old mortar, and much of it remains so now. It has lost its acidity, and is perfectly tasteless. I think if I had mixed dry ashes, or something to absorb the moisture, and converted it into dry powder, so that it could have been more equally distributed, I should have had a much better result, and I think it would be still better to mix it with the earth, when the potatoes were planted. As to Mr. Hutchins' inquiry about the best method of dissolving bones, I think I should make a plank cistern, perhaps one foot deep, and place it below the surface of the ground, and with a stout wooden shoven, with a handle 15 or 20 feet long, a person might stir it about, and turn it over with safety, and when the cistern is not in use, fill it with earth to preserve it from drying. I tried putting some of the paste, (perhpas a tea spoonful to each,) under some cabbage plants, when I was transplanting, and where I put it, I have small heads, and where none was put I have no heads.

I have endeavored, as much as possible, to give a correct statement of my experiment with bones, and am fully convinced that there are bones enough thrown away every year, to increase our potato-crop 15 per cent, to say nothing of the after benefit. W. A. ELA. *West Springfield, Mass.*

Transmutation.

EDS. CULTIVATOR—Many years since, whilst harvesting, I found a head of wheat, and out of the top of that head grew a sprig of chess. I know of many men in this and the adjoining county, who have found heads of wheat and chess, similar to the one here described, growing upon one and the same stalk. I would ask through your paper, how that stalk which produced part wheat and part chess, originated? Did it spring from wheat, or from chess, or from both; or has "an enemy done this?" LUTHER REDFIELD. *Clyde, Wayne county, N. Y.*

The above may be taken as a fair sample of scores of communications we have received on the same subject. The accompanying cut, we think, will show our correspondent "how that stalk produced part wheat and part chess." The chess was entangled in the wheat-head. We have seen several cases of this kind, which were brought forward as demonstrative proof that wheat had "turned" to chess; and tho' we could never perceive that the notion of transmutation rested on any better foundation, it seems strange that its advocates should not have discovered that such examples afford them no support at all.



The head of wheat and chess, of which the above is a copy, was sent to the office of the *Genesee Farmer.*—We are informed by that paper, that the man who left it, thought himself entitled to "the prize," for having proved that wheat and chess were both produced by the same stem. By close examination, and bending down the chaff near the dotted line, the end of the chess stem could be plainly perceived, and it could be seen that there was no actual connection of the two heads. All the cases which have been brought to our notice, (except one where the chess was attached artificially,) have been similar to this.

◆

Poultry-House and Grapery.

In a late visit to Massachusetts, we had the opportunity of examining a poultry-house and grapery combined, which has lately been put up by Col. Jaques, for his son, at the Ten-Hills Farm, near Boston. Three acres of land have been enclosed, and within the enclosure is erected a building, 100 feet long and 22 feet wide, fronting to the south-east This building is divided lengthwise, by a partition,—leaving one division twelve, and the other ten feet wide. The wider apartment is in front, is covered with glass, and is used as a cold grapery; the narrower is used as a shelter for fowls. The area for the building was partly formed by excavation, and the rear wall, which is of stone, stands against a bank ten feet high.

The manner of forming the bed for vines, was as follows: After the ground was properly shaped, a drain, three feet deep, was dug entirely round the outside, so as to turn the cold, underground water away from the roots of the vines. The bed comprises the whole of the area of the building, and a strip additional of the same length along the front, fifteen feet wide,—making 100 by 37 feet. At the bottom of the bed, was placed a layer of brick-bats, three inches thick. It was then raised three feet in thickness by a compost, the materials of which were chiefly stable manure, marsh mud and loam, which had laid in a heap for several months, and to which was added forty loads of ashes and burnt clay from the beds of old brick-kilns, the bones of twenty horses, and fifty bushels of oyster shells.

The vines, mostly of the Black Hamburgh variety, were planted inside the building, but close to the outside, the latter part of May last, and made a growth of from twelve to sixteen feet the same season. The vines are to be laid down in winter, and the fowls during that season, are to have the range of the vinery.

The apartment for the fowls, is well lighted and ventilated by doors at the ends and windows near the roof—the roof over the fowls being two feet higher than that over the grape-vines. Boxes for nests of the fowls, are ranged along the partition wall. A wall five or six feet in height, is to extend from each end of the rear wall of the building, so as to protect the north and west sides of the enclosure. Against this wall, are to be made beds, with glass over them, for early vegetables, and when not used for this purpose, the glass is to afford shelter to geese, ducks, or other poultry.

The ground enclosed, is to remain chiefly in grass. Within the enclosure is both salt and fresh water—a separation being formed by a dike. The water covers an area of 3,700 square feet, in the shape of an egg. The fresh water is derived from springs, which are conducted into the reservoir. The reservoir for salt water is so made that the tide ebbs and flows two feet in it. The water in the fresh-water reservoir, when raised above a certain height, discharges itself into the salt-water reservoir, which is on a little lower level. The experiment of keeping fish, of various kinds, in these reservoirs, is to be made the coming season.

The poultry kept here, has been mostly collected since the building was completed, a large proportion having been reared from the egg the past season. Of course, little can at present be ascertained as to profits. The collection embraces domestic fowls, turkies, Guinea-fowls, pheasants, pigeons, geese and ducks,—the whole numbering about 500—to be increased to such extent as shall appear expedient.

The principal object in regard to fowls, is the production of eggs, and for this purpose a selection of the common fowls of the country was made; but specimens are kept, in addition to these, of the principal distinct varieties. Of geese, we noticed the wild, or Canadian, the large Chinese, or Hong-Kong, (sometimes called African and "mountain goose,") the small grey Chinese, white Chinese, and Bremen. Of the latter there is a splendid stock, derived from an importation made by Col. Jaques in 1822. The female of the imported pair is still living, and has reared a brood every year since she has been in the country, and bids fair to do the same for as many more years. The ducks comprise the most esteemed domestic varieties, as well as several wild species, which have been partially domesticated. Among the latter, we noticed a flock of about twenty of the beautiful wood or summer duck, and several pair of teal.

Most of the poultry, except the geese, are kept in the building before described, every night. The apartment is cleanly swept out every day, and the manure, which is carefully saved, is sold at one dollar a barrel to the morocco-tanners.

The bulk of the food for the poultry, consists of Indian corn, but buckwheat and wheat-screenings are given for variety, and they are kept constantly supplied with butchers' offal and green vegetables—as cabbage and turneps.

We shall look with interest to the success of this novel establishment.

◆

Large Yield of Hay.

In our number for August last, we published a paragraph in reference to a large yield of hay, obtained by H. W. Clapp, Esq., of Greenfield, Mass.

We learn from the Greenfield *Republican*, that the lot was mowed twice last season, and the amount of the two crops is given as follows: "In July, the first crop was cut, and cured; and we have the au_ thority not only of Mr. Clapp but the workmen, that it was *well* cured. The crop was all weighed, and yielded 29 tons, and 497 pounds. In September, the second crop was cut and weighed, and produced 14 tons and 97 pounds—making together 43 tons 594 pounds. The area of the lot is 7 acres and 100 rods. This is very nearly six tons to the acre." The hay is stated to have been sold at $10 per ton, which gives the yearly income of $432 for the 7 acres and 100 rods. The *Republican* states that the lot was formerly quite uneven. Mr. Clapp leveled it, and plowed and subsoiled it, after which it was seeded to grass. It has since been annually top-dressed with about 100 loads of manure, which costs one dollar a load. The crops have been extraordinary, that of 1849 having been nearly equal to that of 1850.

Irrigation.

Editors Cultivator—I read with much pleasure, an article under this head, in your December number: yet there are some parts of it, in which I do not concur, and which I think erroneous as regards the eastern or middle sections of the United States. It is stated that "the proper season is from about Michaelmas till Lady-day; but Mr. Turner entirely objects to summer irrigation, as forcing the land too much, and as calculated to give the sheep, who then depasture upon it, the rot."

My experience, of 30 years, is entirely different. I have used water in irrigation, on mowing lands, from as early in the spring as the frost is out of the ground, until about the time of making hay on the land; and after the hay has been gathered into the barn, occasionally until the setting in of the frost of the succeeding winter; and have had no reason to believe that I was "forcing the land too much." Some of my land has been in grass for the whole period, and has had no manure, except that derived from the water, and the droppings of the cattle, when feeding off the aftermath. The hay crop has been larger of late years, than it was at the commencement of the time above stated, and the average crop is sufficiently large to satisfy the reasonable expectation of any farmer, even from his best land. I have for two winters allowed the water to run on my land, but shall not again irrigate at that season of the year. I received no injury, where the descent was so great, as not to allow the water to become stagnant, but in hollows, where the water was without motion, it would freeze over, and if the ice was transparent, so as to allow the sun's rays to pass through, the grass was destroyed.

Whether summer irrigation will produce the rot in sheep, I have no practical knowledge, but should think it improper that any animal should be pastured on irrigated land, when it is wet. My practice has been, to let on the water after haying, for several days, until I think it properly wet; I then shut it off, and when sufficiently dry, I allow my cattle to feed off the grass, and this I repeat from time to time through the season, as I have occasion. From this procedure, I have discovered no objection, except the additional labor in keeping the ditches in repair, which have been damaged by the hoofs of the animals feeding on the land.

I also object to a part of Mr. Turner's directions in relation to the construction of his second ditch; of the first and third I fully approve. He says "in the hill-side meadows, the gutters conduct the water from a spring on the upper part of the hill-side, in a lateral, but oblique direction, with a gentle fall across the face of the hill. At the opposite side, but so arranged as to leave a considerable interval between each main gutter, it turns, and brings the stream back, at a lower point, across the face of the hill again, and somewhat parallel with the first line, but still descending, when it again turns, and so on till it reaches the bottom."

It will be perceived, that at the "opposite side," the space between the second and third, and fourth and fifth ditches, will be greater than at any other place, so much so, that a portion would not be equally watered with the other land. I have also practiced side-hill irrigation. My practice has been to have my several ditches as parallel as the formation of the land will allow, preserving a proper descent for the water, the water to run in the same general direction in the ditches. From every spring there is a channel down the hill, formed by the running of the water. In this channel, I have small flumes or hatches, with gates, just below where I wish to commence my ditches; the first as high on the hill as I can use the water, and it is usually the case that ditches may be run each way from the channel on the side of the hill. I take the water into the highest ditch, and allow it to run over the side for its whole length, and as equally as is practicable; it then passes over the pannel below, and in its course, from the inequality of the land, will get formed into little rills, to the ditch below. Hence it is desirable that the pannels should not be too wide. The water is intercepted by the second ditch, and by it, in the same manner is diffused over the land. And so on for the whole face of the hill, if there is sufficient water to irrigate the whole of the land at the same time, which is not often the case. If the supply of water is insufficient for that purpose, I first irrigate so much of the higher part of the field as I have water for, then let it run down the original channel to a pannel, where I wish to use a part or the whole of it, and there irrigate as on the first pannel. I have found that the effect was more beneficial, when the water was made to run over the side of the ditch, and strain through the stems of the grass, than where it moistened the roots of the grass by percolating through the earth. Each of the ditches should have a flume at its mouth to control the water at pleasure.

Probably there is no one thing, in relation to a farm, so useful and so much neglected, as irrigation. There are but few farms, on which hill-side irrigation may not be practiced to advantage, for at least a portion of the year. In the spring months, the water from the dissolving of the snows, and from the rains, is too often permitted to carry the richest portions of the soil off the hill, without obstruction, into the swamps and mill-ponds, where it is forever lost to the farmer; for the want of a few ditches, readily made with the plow, at a trifling expense, which would enable him to strain the water before it leaves his premises, retaining its enriching properties for the benefit of his future crops. Even in those cases where the stream is small, and but of few days continuance, it will be an object for every farmer to make his ditches, and use all the water (if he can) in irrigation. He will then be convinced of the truth of Mr. Turner's declaration—"remember, gentlemen, that *the artificial watering of meadows robs no dung-hill; on the contrary, it raises one for the benefit of other lands.*" It should be recollected that the term *meadow*, is in England applied to all mowing land, whether wet or upland.

I would not be understood as denying that the time between Michaelmas and Lady-day, may be a suitable period for irrigation in the climate of Great Britain, but as an unfit time for that object in the middle and eastern portions of the United States. In England the winter is far more mild, and the summer, from the frequent rains and fogs is much more wet, and so cold, that Indian corn will not ripen its seed. Hence the difference may arise. JOHN W. LINCOLN. *Worcester, Mass., Dec.* 11.

Studies in Natural Science.

WE have received from Mr. JOSIAH HOLBROOK, several articles written by him for the NATIONAL INTELLIGENCER, designed to show the importance of a knowledge of the connection of geology and chemistry with agriculture. This design is carried out in a manner which cannot fail to interest and benefit the practical farmer. The illustrations are of the most simple kind, and the technical terms, which are often objectionable to novices, are explained in the plainest manner. The subject is thus brought within the comprehension of those commencing with the rudiments of scientific agriculture. We commend the articles to the attention of our readers. EDS.

◆

Connection of Geology & Chemistry with Agriculture...No.1.

No class of the community have an equal interest in geology with farmers. No science is so interesting to farmers as geology, in connection with chemistry. The two sciences cannot be separated and justice done to either. While the elements of our globe, especially of soils, require chemical tests to determine their character, these very elements are absolutely essential for experiments to determine the fundamental principles of chemistry. Oxygen, the most powerful chemical agent in creation, is also the most abundant material in rocks and soils. The one as an element, the other as an agent, are alike essential to each other, and both indispensable, as at the foundation of all agricultural science.

A knowledge of each is as feasible as it is important—entirely within the comprehension of a child six years old. Each is a science of facts more than abstract reasoning—of facts, too, equally instructive and delightful to every young mind.

Take an example: The child has placed before him two glass tumblers—the one containing quartz, the other lime or sand and chalk. The name of each is of course as readily learnt as the name of iron, lead, gold, tree, horse, or any other object in Nature or Art. Into each tumbler is poured some sulphuric or muriatic acid. In the tumber of lime the pupil observes an action—in that of quartz no action. He is told this action is called effervescence. He hence learns to recognize lime and quartz, and the more certainly from the recollection that the one effervesces with acids and the other does not.

Here is an example of geology and chemistry, alike useful to the farmer and interesting to the farmer's child, or any child. The same simplicity and direct fundamental instruction run through the whole of both of these exceedingly practical sciences.

I will hereafter point out a few of the leading principles of these sciences; their connexion with each other; their essential importance to all classes, and, most of all, farmers; their exceeding fitness for the early instruction of children, and the entire feasibility of having them among the "first lessons" taught in each of the eighty thousand American schools.

Oxus is the Greek word for *acid;* ginomai, in Greek, means *make;* hence the literal meaning of oxygen is *acid maker.* Combined with sulphur it forms a sulphuric acid; with nitrogen, nitric acid; with carbon, carbonic acid, &c. Respiration, combustion and fermentation are the three principal operations producing the combinations of oxygen and carbon; the results, carbonic acid.

Acids combine readily with metals, earths and alkalies—as iron, lime and potash. By chemists these combinations are called salts, designated by the termination *ate.* Sulphuric acid, combining with various bases, produces sulphates; nitric, nitrates; carbonic, carbonates. Sulphate of lime is gypsum or plaster of Paris; sulphate of iron, copperas; of soda, glauber salts; of magnesia, epsom salts. The carbonate of lime is common limestone, marbles, chalk, and many beautiful crystals. Carbonates of iron, copper, and lead, are ores of those metals.

About a century ago water was found to be composed of oxygen and hydrogen, and common air of oxygen and nitrogen. About half a century since oxygen was found by Sir Humphrey Davy to be an element of rocks, of course of soils, as it was of the alkalies, potash, and soda. The other elements in earths and alkalies, combined with oxygen, were found by the same great chemist, to be metals very peculiar in character.

It hence appears that oxygen is an element in air, earth and water, existing abundantly in solid, liquid and ærial forms. In the whole, it constitutes nearly half our globe. It is, of course, the most abundant element in the material world. It is also the most important agent in producing changes in matter essential to human existence. It is very appropriately called *vital air,* as neither animal life nor any life can exist without it. It is no less essential to combustion than to life. It also acts with great energy upon metals and other solid substances. In this action it produces three very large and very important classes of bodies—oxydes, acids and salts. Iron rust is the oxyde of iron; the dross of lead, oxyde of lead; burnt lime, the oxyde of calcium; pure potash, the oxyde of potassium; pure soda, the oxyde of sodium; silex or flint, the oxyde of silicum. The combination of one part oxygen and four of nitrogen constitutes the atmosphere; three parts oxygen and one nitrogen form nitric acid, aquafortis. Combined with other substances, it forms numerous acids. Saltpetre is the nitrate of potash. The large quantity of oxygen it receives from the nitric acid fits it for a material in gunpowder—giving to that powerful agent its principal power.

A plate, tumbler and scrap of paper, with a little water, will enable any teacher or parent to perform an experiment on oxygen equally simple, instructive and interesting. In a deep plate pour some water. On the water place a scrap of thick paper, piece of cork, or other light substance; on that another piece of paper or cotton moistened with oil. On lighting the paper or cotton, place over it a large empty tumbler. The combustion continues for a few seconds, and when it is extinguished the water occupies about one fifth of the space in the tumbler, showing the necessity of oxygen for combustion, and that it constitutes about one-fifth the air we breathe. What man, woman, or child would not like to be familiarly acquainted with an element so abundant and an agent so active as oxygen, especially when such an acquaintance is equally simple, useful and delightful?

ANSWERS TO INQUIRIES.

Best kinds of Corn for garden cultivation.—T. S. The best early variety for "green corn," or "roasting ears," is the Early White Flint, or Canada White Flint. It is an eight-rowed kind, with small stalk, and quite productive in ears. It has been known to reach the state fit for boiling in eight weeks from the time of planting. The "Darling Sweet Corn," (originated by the late Judge Darling, of New-Haven,) is nearly as early as the above, but is not as prolific. The best variety for the latter part of the season is the "Large Sweet." It has usually ten rows to an ear, ears nine to ten inches long. It is the kind grown by the Shakers for drying for winter use.

Clover Hay.—C. H., Cayuga county. If clover has been cut at the right time, or while most of it is in blossom, and rightly made—that is, preserved with its heads and leaves on the stalk, free from mustiness—it is worth as much per pound or ton, as any other hay. It is better than timothy for fattening stock, milch cows or sheep. It is more bulky in proportion to its weight than most other kinds of hay, and hence the mistake frequently made in regard to its being of less value. The objection that it is liable to waste more than other kinds in feeding, will not apply to that which is passed through a cutter. If it is cut, none need be wasted, if the mangers or feeding troughs are of the right kind.

What time should Ewes yean?—B. N., New-York. The period of pregnancy in the sheep is five months. For flocks which are kept chiefly for wool, it is generally preferred to have the lambs dropped about the time the grass starts, so as to afford sheep a "good bite." The advantage of this is, that grass causes the ewes to give a supply of milk for the lambs, (which Merino sheep will not have without grass, unless great attention is paid to their feeding,) and the lambs are reared with more certainty and less trouble. Where lambs are designed for the butcher, it is best to have them dropped as early as March; and by feeding the ewes with good hay and plenty of succulent food—as carrots, turneps, &c., the lambs will grow rapidly.

Rye-Grass.—C. T. B. This variety of grass is better for pasturage than for hay. It starts very early, and is ripe before most varieties are in a sufficiently mature state to cut It is good for sheep-pastures, both from its earliness, and from its being well relished by sheep. The kind called Pacey's rye-grass, is generally preferred. Half a bushel of good seed is generally sown to the acre. It is not a good grass for lawns, as it grows too much in bunches or stools, which make the surface uneven.

Compost of Muck.—W. S. We should prefer ashes to lime to mix with muck. Lime does not as readily neutralize the acid of the muck, and the compost is more soluble from the use of potash.

India-rubber Milker.—We have never seen the article tried. It is for sale by Jas. McMullen, of this city, at $2.50 per set.

Pine Apple Cheese.—H. M. M., St. Charles county, Md. We will give an article on this in our next.

NEW PUBLICATIONS.

Youatt on the Structure and Diseases of the Horse, with their remedies; also practical Rules to Buyers, Breeders, Breakers, Smiths, &c.; being the most important parts of the English edition of "Youatt on the Horse," somewhat simplified: Brought down to 1849, by W. C. Spooner: To which is prefixed an account of the breeds in the United States, compiled by Henry S. Randall; with numerous illustrations. Derby & Miller, Auburn, N. Y.

This is a work of nearly 500 pages duodecimo. It is handsomely "got up," and embodies a large portion of the valuable matter contained in the English works referred to in the title. We shall take occasion to notice it more particularly hereafter.

Harper's New Monthly Magazine.—The December number of this work is the commencement of the second volume—two volumes being given in a year. The publishers have introduced a new feature—that of giving "occasionally some of the master-pieces of classical English literature, illustrated in a style of unequalled elegance and beauty." The December number contains Goldsmith's *Deserted Village*, with beautiful engravings, and much other interesting reading.

Water Cure Journal and Herald of Reforms.—This monthly publication, it will be seen by an advertisement in this number, has been greatly enlarged and improved. It is beautifully printed, on paper of very superior quality, and altogether presents an appearance not excelled by any work with which we are acquainted. Its reading matter is of an interesting character. Published by Fowlers & Wells, New-York.

The Horticulturist, and Journal of Rural Art and Rural Taste. This magazine has been published four and a half years, and its influence in reference to the objects to which it is devoted, is strikingly shown in the rapid progress of improvement in various parts of the country. It is a work which is alike useful to the amateur, and commercial gardener and horticulturist, and is, indeed, indispensible to all who would keep up with the march of knowledge on these subjects. The editor, Mr. Downing, is known both in this country and Europe, as one of the ablest writers of the age, on all branches of horticulture, landscape gardening, rural architecture, &c.; and its correspondents include many of the most intelligent cultivators of the country. This work is issued on the first of each month, in the best style of the periodical press; each number containing 48 pages, embellished with a frontispiece, and several other engravings. A new volume commences with the present month, (January.) Terms—three dollars a year—two copies for five dollars, payable in advance. Business letters should be addressed to the Proprietor, Luther Tucker, Albany, N. Y.; and communications to A. J. Downing, Newburgh, N. Y.

The Farmer's Guide to Scientific and Practical Agriculture. This is an elaborate and most valuable work by Henry Stephens, athor of the *Book of the Farm*, with notes by Prof. J. P. Norton, of Yale College, designed to adapt the work to the United States. It is published by Leonard Scott & Co., 79 Fulton-st., New-York. It is issued in numbers, at 25 cents each, or $5.00 in advance for the work, which will be completed in 22 numbers, 13 of which are already issued. It will form one of the best and most comprehensive treatises on agriculture that has ever been published.

British and Foreign Medico-Chirurgical Review; or Quarterly Journal of Practical Medicine and Surgery. This valuable publication, which should be in the hands of every medical practitioner, is republished by Messrs. R. & G. S. Wood, 261 Pearl-street, New-York, at three dollars a year.

New-York State Agricultural Society.

Annual Meeting.

The *Annual Meeting of the Society* will be held at the Capitol, on the 3d Wednesday, 15th of January. Premiums will be awarded on *Farms, Essays, Dairies, Butter, Cheese,* and *Farm products generally;* and an exhibition of Fruits will be held at the Society's Rooms.

It is desired that there should be an extensive competition for the premiums offered by the Society; and a full representation of farmers from every county in the State.

Persons sending fruits are requested to have the varieties properly labelled and named, with the name and residence of the exhibitor; securely packed and directed to the Agricultural Rooms, and forwarded as early as practicable. It is desirable that the character of the soil, the exposure of the orchard, and its management, and the habits of the tree, as to its thrift and bearing character, be given.

The following committees have been appointed for the Winter Meeting:—

Management of Farms.—A. Van Bergen, Coxsackie; Hamilton Murray, Oswego; James Kelly, Rhinebeck.

Essays, Draining, and Agricultural Work for Schools.—John Delafield, George Geddes, and J. P. Beekman.

Butter and Cheese Dairies.—B. P. Johnson, S. A. Law, Meredith; George Brayton, Oneida.

Butter and Cheese on Exhibition.—Henry Wager, Oneida; Phineas Rumsey, Orange; J. W. Ball, Otsego.

Fruit.—Herman Wendell, M. D., Albany; Hon. Samuel Miller, Rochester; R. L. Pell, Pelham; Hon. Theron G. Yeomans, Walworth; Charles Lee, Penn Yan; Mr. Tibbits, White Plains.

Wheat, Rye and Oats.—J. B. Burnet, Onondaga; D. S. Curtis, Canaan; Hon. Lorenzo Rouse, Oneida.

Indian Corn.—Boswell M. Reed, Coxsackie; Hon. Orlando Allen, Erie; Lewis E. Smith, Half-Moon; Mr. Beers, Somers.

Barley, Buckwheat, Peas and Beans.—Benjamin Enos, Madison; Stephen Haight, Dutchess; Thomas Bell, Westchester.

Potatoes and Root Crops.—James M. Ellis, Onondaga; E. N. Pratt, Greenbush; Henry Miller, Hudson.

Madder, Corn Fodder, Flax, Hops, Tobacco, Broomcorn.—Hon. James Farr, Washington; James Macintyre, Fonda; A. Osborne, Watervliet.

Pomological Exhibition.—J. McD. McIntyre, J. J. Viele, Sanford Howard, B. B. Kirtland, James Wilson,

Treasurer's Account.—Lewis G. Morris, and President and Secretary, and Corresponding Secretary.

Cammittee to Arrange for Winter Meetings.—E. P. Prentice, Luther Tucker, B. P. Johnson.

Agricultural Survey of Seneca.—J. P. Beekman, George Vail, Z. C. Platt.

DOMESTIC ECONOMY.

Method of Curing Prize Hams.

The hams of Maryland and Virginia have long enjoyed a wide celebrity. At the last exhibition of the Maryland State Agricultural Society, four premiums were awarded for hams. We are informed by those who had the opportunity of examining them, that they were of first rate quality. The following are the receipes by which the hams were cured:

T. E. Hambleton's Recipe—1st premium. To every 100 lbs. pork, take 8 lbs of G. A. salt, 2 oz. saltpetre, 2 lbs. brown sugar, 1½ oz. of potash and 4 gallons of water. Mix the above, and pour the brine over the meat, after it has laid in the tub some two days. Let the hams remain six weeks in brine, and then dried several days before smoking. I have generally had the meat rubbed with fine salt when it is packed down. The meat should be perfectly cool before packing.

J. Glenn's Recipe—2nd premium. To 1000 lbs. of pork, take half a bushel and half a peck of salt, 3 lbs. saltpetre, 3 lbs. sugar, and 2 quarts of molasses. Mix—rub the bacon with it well; keep on for three weeks in all, but at the end of nine days take out the hams, and put those which were at the top, at the bottom.

R. Brooke Jr.'s Recipe—3d premium. One bushel fine salt, half bushel ground alum salt, one and a half pounds saltpetre to the thousand lbs. pork, left to lie in pickle 4 weeks, hung up and smoked with hickory wood until the rind becomes a dark brown.

C. D. Slingluff's Recipe—4th premium. To 100 lbs. Green Hams, take 8 lbs. G. A. salt, 2 lbs. brown sugar or molasses equivalent, 2 oz. saltpetre, 2 oz. pearl ashes, 4 gallons water, dissolve well, skimming off the scum arising on the surface. Pack the hams compactly in a tight vessel or cask, rubbing the fleshy part with fine salt—in a day or two pour the above pickle over the meat, taking care to keep it covered with the pickle. In four to six weeks, according to the size and weight of the hams, (that is to say, the longer period for heavy hams,) hang up to smoke, hock up; smoking with green hickory wood. I have put up hams for the last 12 or 15 years by the above recipe with uniform success, equal at all times to the sample now presented.

To the above we add the following, which we, as well as many others, have satisfactorily proved:

For every one hundred pounds of meat, take five pints of good molasses, (or five pounds of brown sugar,) five ounces saltpetre, and eight pounds rock salt—add three gallons of water, and boil the ingredients over a gentle fire, skimming off the froth or scum as it rises. Continue the boiling till the salt, &c. is dissolved. Have the hams nicely cut and trimmed, packed in casks with the shank end down, as the pickle will thus strike in better. When the pickle, prepared as above, is cooled to blood heat, pour it over the hams. They may lie in pickle from two to six weeks, according to the size of the pieces, or the state of the weather, more time being required in cold, than in warm weather. Beef or mutton hams, intended for smoking and drying, may be cured according to this mode, and will be found excellent.

Much of the goodness of hams depends on smoking. They should be hung at such a distance from the fire, as not to be heated. They should also be hung up with the shank end downward, as this will prevent the escape of their juices by dripping. Small hams, wanted for immediate use, will answer with two weeks' smoking, but larger ones, and those wanted for keeping, should be smoked four weeks or more.

◆

Fried Potatoes.—The French method of cooking potates affords a most agreeable dish. The potatoes are peeled, wiped, and cut into thin slices, then thrown into a frying pan containing an abundance of hot lard. As soon as they become brown and crispy they are thrown into a collander to drain, then sprinkled with salt, and served up as hot as possible.

NOTES FOR THE MONTH.

Acknowledgements.—We have received communications since our last, from R. Grant, W. L. Owen, L. L. Bullock, John Johnston, J. S. P., A. K., D. T., J. W. Lincoln, J. H. Salisbury, H. M. Mattison, J. French, H. M. M., J. W. Proctor, P. P. P.

Books, Pamphlets, &c. have been received, during the last month as follows:—Catalogue of Officers and Students of Yale College, for 1850–51, from Prof. Norton.——The American Journal of Science and Arts, for Nov., from the Editors, New Haven, Conn.——Report of the 5th exhibition of the Delaware county (Pa.) Institute of Science, with the address of J. M. Broomall, Esq.——Youatt on the Horse, with notes by W. C. Spooner and H. S. Randall, from the publishers, Derby & Miller, Auburn.——Proceedings of the Philadelphia Society for promoting Agriculture for 1850.

"One who intends to be a Farmer."—Your plan of farm-buildings is very creditable to a young architect, but is lacking in some points which convenience and economy require. For instance, there is no provision for the storage of grain, though there is a threshing-floor; the apartments for the storage of hay and straw for the different kinds of stock, are much too small, and their situation requires too much labor to carry the fodder to the stock.

Phosphate of Lime.—We learn from Dr. E. Emmons that an inexhaustible supply of this article has been discovered on the west shore of Lake Champlain, at Crown Point. A considerable quantity of it was quarried last autumn, some of which has been examined by Dr. E., and also by Prof. Norton, and has been found to contain from four to five per cent of phosphate. It may be prepared for use as manure, either by being ground in a mill, after the manner of grinding plaster, or it may be burnt, like lime. It is harder than plaster, and would require more force in pulverizing. When burnt, it readily falls to powder.

It will be recollected that the use of phosphate of lime has been attended with highly favorable results in some parts of Europe, particularly on old pasture grounds, and such as have been much devoted to grain crops, which have been exhausted of their phosphates. We trust that accurate trials of this article will be made the coming season, in comparison with bones and other manures, for various crops and on various soils, and that the results will be given to the public. Farmers will then have some criterion by which they may determine its relative value, and the expediency of purchasing it as a manure.

Drainage of Soils.—So far as we can learn, the results of under-draining in this country have given great satisfaction. Mr. John Johnston, of Seneca county, who may be considered the pioneer in this enterprise in western New-York, informs us that he laid down about 5,000 tiles the past autumn, making, with what where before laid, over 50,000 on his farm. The tile-machine owned by Mr. Whartenbury, of Waterloo, has been in constant operation, and does not supply the demand for tiles. Mr. Johnston suggests to the makers of wire fence, that a good drain, two and a half or three feet deep on the upper side of the fence, (or if the ground is not sloping as near the fence as practicable,) will keep the posts from heaving by frost. If the ground is wet, he says the posts will heave, even if set "six feet deep."

Standard for the Shape of Fowls.—At the late exhibition of poultry at Boston, a well known gentleman, who had carefully examined the different kinds of fowls, observed: These long-legged, thin-breasted chickens will never answer for the table. I speak from forty years' practice in *carving*. I have formerly had them, sometimes, on my table, but have grown wise by experience, and will have no more of them. To say nothing of the poor quality of their flesh, their shape is not right. For instance, if I have a pair of such chickens, and there are half a dozen ladies at table, each chooses a piece of the breast, and there cannot be enough cut from that part to serve round; but if I have a pair of partridges [ruffed grouse,] though they may not weigh more than half as much as the chickens, I can readily take a slice from the breast for each guest. The partridge, then, should be the standard for the shape of fowls; and besides the advantage alluded to, it will be found in general, that the nearer this form is approached, the better will be the flesh, and the greater the quantity in proportion to the bone.

Mr. Bell's Sale of Stock.—We would call particular attention to Mr. Bell's sale of stock, a list of which will be found in our advertising department. He has taken great pains, both in the original selection of his animals, and in the breeding of those he has reared. We saw his whole herd last fall, and can safely say, that one hundred cows of equal value for the dairy, are very rarely collected. Many of the "grades" are animals of much value, combining symmetry, constitution and thriftiness, with excellent dairy properties.

Sale of Short-Horns.—We learn that Geo. Vail, Esq., of Troy, has recently sold the short-horn bull-calf and two year old heifer which obtained the first premiums at the last show of the American Institute. The calf, *Kirkleavington*, was by *Wellington*, out of *Lady Barrington* 3d, both purchased by Mr. V. of the late Thos. Bates, Esq., of Yorkshire, England. The purchaser of the two animals first mentioned, is Mr. Elisha W. Sheldon, of Sennett, Cayuga county, N. Y. We hope his liberal enterprise will be properly rewarded.

"Chappel's Fertilizer."—We have noticed frequent advertisements at the south, of an article under this name, but have seldom seen any particulars in regard to its effects. Mr. Edwin G. Booth, states in the *Southern Planter*, that "he has tried it in every conceivable manner, and," he continues, "if one particle of benefit has ever been imparted to the land or the crop, I have been unable to perceive it, nor has any other person who has seen it been more fortunate." Mr. B. then goes on to give an account of an experiment made on the farm of Richard Irby. "He laid off two contiguous squares on unproductive land,

and put on one the quantity of Chappel's fertilizer recommended; on the other, the usual quantity of guano was sown. That on which the fertilizer was applied remained unproductive; the other produced a good crop. The line of demarkation being as striking as shade and sunshine."

Analyses of Soils, Manures, &c.—From the frequent inquiries which have been made, in regard to procuring reliable analyses of various substances, the officers of the New-York State Agricultural Society, have been induced to make an arrangement with Dr. J. H. Salisbury, by which investigations may be obtained in the various branches of agriculture which practical chemistry is capable of illustrating. The charges for analysis are as follows:

Complete quantitative inorganic analysis of a soil, limerock, gypsum, peat, marl, animal manure,........................	$5 00
Complete proximate organic analysis of a manure, marl, peat, soil,..	5 00
Determination of the per centage of water, dry matter, and ash in manures, &c..	2 00
Analysis of mineral or spring waters,........................	7 00

The above fees to accompany all samples or communications. No analysis will be allowed to pass out of the Laboratory till paid for.

The analysis of ores, minerals, rocks, commercial articles, &c., also attended to with care.

For analysis, enough of the above substances should be sent to make half a pound when dry. Of mineral or spring waters, about one gallon is required.

Samples and communications may be forwarded, post paid to Dr. J. H. Salisbury, or to B. P. Johnson, Esq., Secretary N. Y. State Ag. Soc., old State Hall, Albany.

Stanley and Dickerman's Indian Portrait Gallery.—Having had the pleasure of examining this splendid collection of Indian portraits, while it was being exhibited in this city, we feel that by calling attention to it, we may perform a public service. It consists of upwards of one hundred figures, sketched from life by Mr. Stanley, during a sojourn of several years among the various Indian tribes between the Mississippi river and the Pacific ocean. They represent almost every phase of Indian character, from the wild and superstitious Pawnee-Pict, to the civilized and intelligent Cherokee. We have good reason to believe that these figures are *likenesses*, and they are, besides, declared by connoisseurs to possess much artistic merit. Great credit is due to Messrs. S. and D., for the unwearied pains they have taken in producing this collection. The Indian, as he was by nature, is rapidly passing away, and in a short time he will be seen only as changed, more or less, by intercourse with the race by whom he has been supplanted, and before whom he seems destined to yield the last foot of that vast territory over which he once roamed.

Multicole Rye.—E. G. Booth, states in the *Southern Planter* that he has tried this variety of rye in comparison with other varieties, on several kinds of soil, and in all cases the Multicole was superior in yield—on some rather poor soils, it yielded twice as much as any other.

Bones as Manure.—The use of bones as manure was commenced in England, about 1776. It was then common to apply from 60 to 70 and even 100 bushels to the acre—they being coarsely broken by hammers. Experience has proved, however, that so large a quanitty does not produce effects in proportion, and 10 to 12 bushels are now thought to be sufficient in most cases. The annual value of bones used in England for manure. is estimated at £880,000 or $4,400,000.

World's Exhibition for 1851.—We learn from the English papers that the arrangements for this great exhibition are progressing rapidly. The stupendous building, destined to receive the numerous articles which will be sent from all parts of the globe, will probably be completed by the appointed time.

The exhibition is to be opened in Hyde Park, London, on the first day of May, 1851. Goods will be received between the first of January and the first of March,—after the latter day, none will be received. The building is to be 1,848 feet long, 408 feet wide, and 88 high, with a machinery room 936 feet long and 48 feet wide. It is to be chiefly of cast-iron and plate-glass; 4,000 tons of the latter material will be required for the roof. An avenue, 72 feet in width, extends lengthwise through the center of the building. Along the sides of this avenue, at distances of 24 feet, are placed columns, for the support of the roof. Girders of iron are inserted into the sides of the building and the columns, 18 feet from the floor. These girders are two feet in depth, and 2,244 of them will be required. The strength of these girders, and of every piece of iron used in the building, is tested by a powerful hydraulic press. A transept crosses the main building near its center. The transept is to have a circular roof, which is to rise 20 feet above the other part of the building, and cover a row of six very large elm trees, around which it is intended to provide a first-class refreshment room. The length of the transept, including the space to be set apart for refreshment rooms, will be 408 feet, its width 72 feet, and the height from the floor to the center of the circular roof will be 108 feet.

To prevent the attack of the "Onion Grub."—The growth of the onion is frequently prevented and the plant sometimes destroyed by a worm which attacks it as soon as it appears above ground. A correspondent of the *Gardener's Chronicle* states that he has applied nitrate of soda with good effects in preventing the ravages of this insect. He used half a pound of the salt to a gallon of water, and applied eight gallons to a bed of ten yards in length. He states that it checked the progress of the worms, and the crop turned out well.

Average Products of an English Farm.—The following are the averages of some of the products of a farm of 740 acres, near Brighton, England, occupied by Wm. Rigden. He has 250 acres of wheat, averaging 26 bushels per acre; 40 of barley, 40 bushels; 60 in oats. 60 to 80 bushels; 240 acres in clover and grasses, two tons hay. He keeps 350 South Down ewes, which average yearly about 400 lambs; average quantity of wool yielded by the flock, four pounds per fleece, and it sells at 25 cents per lb. He keeps 21 cows, which yield on an average ten quarts of milk per day, the year round.

Height of Lightning Rods.—It has been laid down as a rule, derived from experiments made in France, on the conducting power of lightning-rods, that a rod will protect a circle whose radius is equal to twice the height of the rod. Prof. Loomis, of New-Haven, states that he has heard of a case where a pile of shavings were set on fire by lightning, at the distance of one hundred feet from a lightning rod of fifty-nine feet in height. From this case Prof. L. concludes that it is unsafe to rely upon a rod to protect a circle whose radius is more than once and a half the height of the rod.

Relative weight of Corn and Cob.—The proportion of corn to the cob, in different varieties, is a matter of great importance, and should be duly regarded in selecting a kind for cultivation. The same point should be aimed at in this case as in animals for fattening—the least proportion of offal to the valuable parts. E. M. Bradley gives the *Rural New-Yorker* the results of an experiment on this subject. The varieties of corn were the Dutton. (yellow twelve-rowed,) the Vermont, (yel-eight-rowed,) and the Red-blaze, (white eight-rowed.) Samples of each of these kinds were husked the first week in October, thoroughly dried; then carefully weighed and shelled, showing the following results:—

75 lbs. of ears of Dutton gave of cobs 20 lbs. 9 ozs., of corn 54 lbs. 7 ozs.
75 lbs. of ears of Vermont corn gave of cobs 15 lbs. 12 ozs., of corn 59 lbs 4 ozs.
75 lbs. of ears of Red-blaze gave of cobs 15 lbs. 11 ozs., of corn 59 lbs. 5 ozs.

The corn was measured before it was shelled. Of the Dutton there was two bushels and four quarts; of the Vermont two bushels, and of the Red-blaze two bushels and two quarts. Thus the two latter varieties yielded 8⅓ per cent more corn in proportion to the weight of cob than the Dutton, and considerably more in proportion to the bulk. There is another disadvantage connected with large cobs, which should be noticed. They are much longer in drying, and consequently the grain is much more likely to mould and spoil, either in the crib, or while it is in shock.

Wm. M. Plant.] ST. LOUIS [Wm. Salisbury.

Agricultural Warehouse and Seed Store,

Corner of Fourth and Green Streets,

(Lately Plant & Brother,)

By PLANT & SALISBURY, Wholesale and Retail Dealers in GARDEN, GRASS, FLOWER, AND OTHER SEEDS.

CLOVER, Timothy, Red Top, Blue Grass, Millet, Randall Grass, Orchard Grass, Hemp, Mustard, Locust, Osage Orange, Canary, &c., &c. Best market rates paid in *cash* for the above Seeds.

Implements and Machines.

Plows, Harrows, Seed Sowers, Hay Cutters, Corn Shellers, Shovels, Spades, Hoes, Rakes, Haying Tools, Horse Rakes, Budding and Pruning Knives, Saws and Chisels, &c., &c.

Agricultural Books—A Large Stock.

Also, Fruit and Shade Trees, Green-house and Garden Plants, &c., all of which we will sell as low as any other house in the city. A Descriptive Catalogue furnished to post-paid applicants. Orders solicited and promptly executed by PLANT & SALISBURY.
St. Louis, Jan. 1, 1851—1t.

Prouty & Mear's Celebrated Premium Center Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff-street, New-York.
Jan. 1—1t. BARR & ATTERBURY.

Mount Rutsen Fruit and Ornamental Trees.

THE subscribers have for sale all the choice varieties of the Pear, Apple, Plum, Cherry, Peach, Apricot, Nectarine, Quince, Red Antwerp and Franconia Raspberries, Gooseberries, Currants, and Strawberries.

Also, a good assortment of Dwarf Pear Trees. None cultivated but those that have been tested in this country. When purchasers desire, selections will be made by the proprietors, so as to afford a regular succession of the best varieties through the season, and all warranted true to their names.

Trees for canal and railroad well packed in bundles, inclosed in mats, put up in moss.

All communications, post-paid, to be directed *Rhinebeck, Dutchess Co., N. Y.* GEORGE SNYDER & Co.
Jan. 1, 1851—1t.*

BUSINESS NOTICES.

To our Subscribers.

With this number we send you, agreeably to our promise, a copy of

The Pictorial Cultivator Almanac,

which has been got up at a heavy expense, expressly as a New Year's Present to the subscribers of The Cultivator. If, in return, all who receive this number will use their influence to increase the list of our subscribers for the present year, they will confer a favor for which they will receive our hearty thanks.

Every Subscriber an Agent.

All our Subscribers, as well as all Postmasters, are especially invited to act as Agents for our publications, The Cultivator and The Horticulturist.

☞ Agents who compete for our Premiums, will aid us in keeping their accounts. if they will number their subscribers, 1, 2, 3, and upwards.

Remember the Terms to Clubs.

Seven Copies for $5.00—Fifteen Copies, and a Dollar Book to the Agent, for $10.00.

☞ In answer to several inquiries, we would state, that it is not required that all papers in a club should be sent to one post office. We will address them to as many different offices as may be necessary.

Premiums to Agents of the Cultivator.

As an inducement to greater exertion on the part of those disposed to act as Agents, the following Premiums will be paid, in Books, or Implements or Seeds, from the Albany Agricultural Warehouse, to those who send us the largest number of subscribers for 1851:

1. To the one who shall send us the greatest number of subscribers to The Cultivator for 1851, with the pay in advance, at the club price of sixty-seven cents each, previous to the 20th of March next, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest number, the sum of FORTY DOLLARS.
3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.
4. For the next largest list, the sum of TWENTY DOLLARS.
5. For the next largest list, TEN DOLLARS.
6. For the Five next largest lists, each FIVE DOLLARS.
7. For the Ten next largest lists, each THREE DOLLARS.
8. A copy of Thomas' "American Fruit Culturist," price one dollar—a very valuable work—or any other dollar book—to every Agent who sends us fifteen subscribers and $10, and who does not obtain one of the above prizes. LUTHER TUCKER.

Albany, N. Y., Jan. 1, 1851

THE HORTICULTURIST,

AND

Journal of Rural Art and Rural Taste.

Edited by A. J. Downing,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit Trees of America," &c., &c.

To all persons alive to the improvement of their gardens, orchards, or country seats,—to scientific and practical cultivators of the soil.—to nurserymen and commercial gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable. Its extended and valuable correspondence presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. The "Foreign Notices" present a summary from all the leading Horticultural Journals of Europe; the "Domestic Notices," and "Answers to Correspondents," furnish copious hints to the novice in practical culture; and the numerous and beautiful Illustrations,—Plans for Cottages, Greenhouses, the Figures of New Fruits, Shrubs and Plants, combine to render this one of the cheapest aad most valuable works on either side of the Atlantic.

A New Volume, (the 6th,) is commenced with the January number, 1851, with some important improvements in the mechanical appearance of the work; and no efforts will be spared by the editor or publisher, to render it still more worthy of the liberal patronage extended to it.

Terms—Three Dollars per year—Two copies for Five Dollars. All payments to be make in advance, and orders to be post-paid.

☞ All Agents for The Cultivator, and Postmasters generally, are invited to act as Agents for The Horticulturist.

LUTHER TUCKER,
Publisher, Cultivator Office, Albany, N. Y.

State Agricultural Warehouse.

THE subscribers would respectfully invite the attention of Farmers and Planters to their varied assortment of

Agricultural and Horticultural Implements,

among which may be found Prouty & Mear's celebrated and highly approved Center Draught Plows; Emery & Co.'s Improved Rail Road Horse-power and Thresher, (all of which took the first premiums at the late State Agricultural Fair, and are unequaled by any now in use;) together with a full assortment of the latest and most improved Plows, Straw Cutters, Fanning Mills, Corn Shellers, Seed Sowers, Cultivators, Harrows, &c., &c., which they will sell at as low rates as any similar establishment in the United States.

We shall at all times have on hand a full stock of Field and Garden Seeds, Guano, and all other Fertilizers in the market, which may be had on the most reasonable terms.

Persons purchasing articles of us may rely upon their giving satisfaction, as we intend keeping only such as we can fully warrant.

BARR & ATTERBURY,
No. 25 Cliff-street, New-York.
Jan. 1—1t.

Prospectus of the Water-Cure Journal, for 1851.

THE WATER-CURE JOURNAL is published monthly, illustrated with engravings, exhibiting the Structure, Anatomy and Physiology of the Human Body, with familiar instruction to learners. It is emphatically a JOURNAL OF HEALTH, adapted to all classes, and is designed to be a complete FAMILY GUIDE, in all cases and in all diseases.

HYDROPATHY,

Will be fully unfolded, and so explained that all may apply it in various diseases, even those not curable by any other means. There is no system so simple, harmless, and universally applicable as the Water Cure. Its effects are almost miraculous, and it has already been the means of saving the lives of thousands, who were entirely beyond the reach of all other known remedies.

PHILOSOPHY OF HEALTH.

This will be fully discussed, including Food, Drinks, Clothing, Air, and Exercise, showing their effects on both body and mind.

REFORMS

In all our modes of life will be pointed out, and made so plain that "he that runs may read." We believe fully that man may prolong his life much beyond the number of years usually attained. We propose to show how.

TO INVALIDS,

No matter of what disease, the principles of Hydropathy may safely be applied, and, in nine cases out of ten, great benefit may be derived therefrom.

TO THOSE IN HEALTH.

Without health, even life is not desirable, unless a remedy can be found. To preserve health, no other mode of living can compare with this system. In fact, were its rules observed and carried out, many of our ills would be forever banished, and succeeding generations grow up in all the vigor of true manhood. It will be a part of our duty to teach the world how to preserve health, as well as cure disease.

WATER-CURE AT HOME.

Particular directions will be given for the treatment of ordinary cases at home, which will enable all, who may have occasion, to apply it without the aid of a Physician.

TO WOMEN AND MOTHERS.

It is universally conceded by all intelligent practitioners, as well by the old school as the new, that the Water-Cure is not equaled by any other mode of treatment in those peculiar complaints common only to woman. The Journal will contain such advice and instruction as may be considered most important, in all these critical yet unavoidable cases.

THIS JOURNAL

Will be published on the first of each month, containing the best matter with reference to the application of this system to Life, Health, and Happiness, adapted to all classes, on the following

TERMS IN ADVANCE.

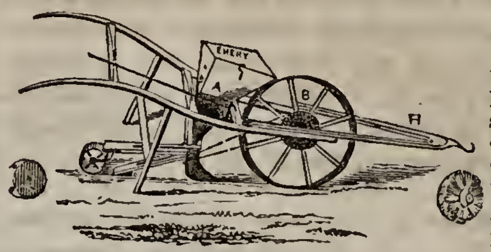
Single copy one year,	$1 00
Five copies one year,	4 00

Please address all letters, POST-PAID, to

FOWLERS & WELLS,
Clinton Hall, No. 131 Nassau-street, New-York.

N. B.—Now is the time to subscribe. Jan. 1—1t.

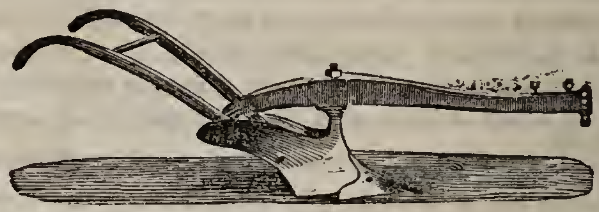
Emery's Seed Planter,



FOR Planting all kinds of Garden Seeds by hand, in drills or hills, and so constructed as to be equally well adapted for planting Corn, Beans, Peas, &c., in drills or hills, and may be instantly ganged to any quantity of seed, and the hills any distance apart, from three inches to eight feet.

The Planter is taken by the handles, and moved before the operator as a wheel-barrow. The Planter makes its own furrow, measures the quantity of seed, and deposits it in the ground, and a coverer and roller follows, which completes the whole operation, as fast as a man or horse can walk. When the rows are three feet apart, from eight to twelve acres are planted per day, or an acre per hour, with a precision not before attained by any other Planter we have seen. In large fields and long rows, a horse is usually attached.

It has been very widely introduced throughout the country during four years past, and with an increased demand,—our orders the last season exceeding all previously sold. Price, complete, $14.00.



Plows.

The Eagle Plows, in great variety of sizes, including some new patterns added the last season to the assortment, and calculated for extra deep Sward work, and for Stubble land, capable of turning under any loose stubble, &c., on the surface.

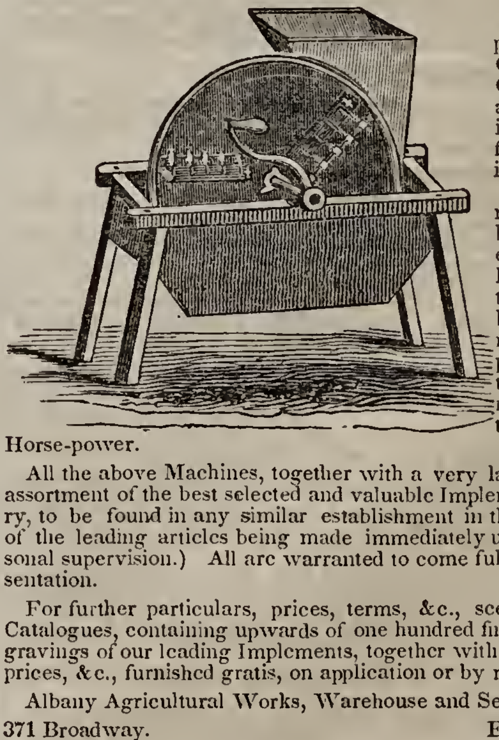
Besides the above, we have had made, expressly for our Trade, two New Patterns—one calculated for narrow and deep work for lapping furrows, of easy draft, and capable of doing the best of work; the other is for lighter broken land, and very well adapted to flat work, if desired—well calculated for one team of horses, and a very favorite Plow where introduced. Several hundreds were sold the past season, of the latter, and in no case have they failed to give satisfaction.

To our assortment we have added the various sizes of the celebrated Plows of Messrs. PROUTY & MEARS, of Boston—some of which received the highest premiums of the New-York State Agricultural Society, at their Trial in June, 1850.

Also, Cultivators of various kinds, and for different field crops. Harrows of several kinds, including the Geddes and Scotch forms, of all sizes.

Field Rollers of various sizes and kinds, including one of 30 inches and one of 24 inches diameter, made of cast iron sections, 15 inches long; as man y sections are suspended on a two-inch wrought iron shaft as are sufficient to make the length of Roller required six feet long. Prices of 30-inch, 5 sections, with frame, &c., for use, $50; of 24-inch, 5 sections, $35.

Vegetable Cutter,



For cutting and preparing Turneps, Carrots, &c., for Cattle and Sheep—a very useful and important machine for Farmers feeding roots.

As with it one man can cut one bushel per minute, equally and evenly. It is extensively introduced, and probably is the best machine for the purpose, made in this country. It can readily be attached to and worked by Horse-power.

All the above Machines, together with a very large and complete assortment of the best selected and valuable Implements of Husbandry, to be found in any similar establishment in the country, (many of the leading articles being made immediately under our own personal supervision.) All are warranted to come fully up to the representation.

For further particulars, prices, terms, &c., see our Descriptive Catalogues, containing upwards of one hundred finely executed engravings of our leading Implements, together with descriptions, uses, prices, &c., furnished gratis, on application or by mail.

Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371 Broadway. EMERY & CO.

Albany, Jan. 1, 1851.

To Farmers, Horse-buyers, Breeders, Breakers, Smiths, &c.

BEST WORK ON THE HORSE.

NOW ready, the Third Thousand of "YOUATT on the Structure and Diseases of the Horse," with their Remedies, brought down to 18 '61, by W. C. SPOONER, M. R. C. V. S., to which is prefixed an account of the Breeds in the United States, compiled by H. S. RANDALL, with 55 illustrations, large 12mo, 483 pages—price $1.50—and for sale by Booksellers generally, through the U. States.

Orders should be addressed to

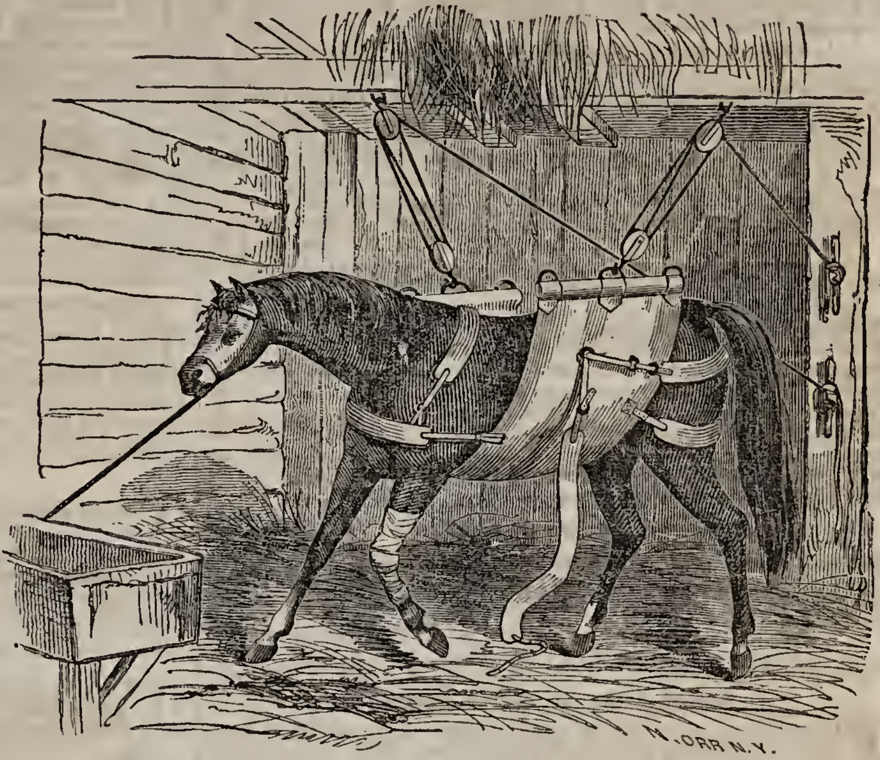
DERBY & MILLER,
Publishers, Auburn, N. Y.

On receipt of $3.00 we will forward two copies, free of expense, to any point on the Railroads in the United States.

"Every man who owns a good Horse—the noblest as well as the most useful of animals—owes it to himself to understand well, matters pertaining to his healthy preservation. Randall's "Spooner's Youatt," is the greatest work of the age upon this particular topic."—*Am. Courier.*

"No less valuable than the animal it describes. Every man who owns or drives a Horse, needs this Book as much as a Horse needs a harness in which to perform his labors, if he would know how to make his beast of the greatest possible service to him."—*Boston Farmer.*

Jan. 1, 1851.



The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE,* of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.

Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Unrivaled Improvement in Water Wheels for Mill-Owners.

RECENT improvements in the French Turbine and Scotch Mortar Water Wheels, exceeding all others, even the most perfect Overshot Wheel, by a great percentage, has been patented by Mr. Henry Van Dewater. It has been fully tested, and found *far* in advance of all other wheels, both in power and economy, or quantity of water required. Its superiority is established in the following points: 1st. It gives greater percentage of the water. 2d. Is not affected by back-water. 3d. Is not obstructed by ice. 4th. Wastes no water. 5th. Is more durable. 6th. Requires less room. 7th. It is less variable in its motion when performing more or less labor, with the same supply of water.

The quantity of water required under different heads and falls, for six and a half horse power, say from 5 feet to 28 feet fall, first
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
5-114, 6-88, 7-68, 8-57, 9-48, 10-44, 11-38, 12-31, 13-31, 14-29, 15-26,
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
16-25, 17-23, 18-21, 19-20, 20-19, 21-18, 22-17, 23-16, 24-15, 25-14,
ft in ft in ft in
26-11, 27-10, 28-9. All who may wish to improve their mills or factories, by the use of the above wheels, and will send us a statement of head and fall of water, and the amount of horse power required to drive the machinery they use, will receive immediate attention.

☞This wheel is capable of driving, according to the quantity of water, and as the head and fall may be in height, from 6 horse-power to 250 horse-power.

Mr. Jagger is a practical and experienced mill-wright, and considers this the best Water Wheel that has ever been offered to the public.

We have a large assortment of Machinery Patterns, that have been collecting more than fifty years, and are ready at all times to furnish Castings, fitted or not, at short notice and on fair terms.

JAGGER, TREADWELL & PERRY,
Eagle Foundry and Machinery Works,
Oct 1—7t. No. 110 Beaver-street, Albany, N. Y.

School of Applied Chemistry,

YALE COLLEGE, NEW HAVEN, Conn.

JOHN P. NORTON, Prof. of Scientific Agriculture.
HENRY WURTZ, First Assistant.

STUDENTS are received in this Laboratory as a special class distinct from the other college departments, and instruction is given in all branches of Chemistry, both organic and inorganic, general and special.

Every facility is afforded to those who desire to become proficient in Scientific Agriculture, in the analysis of soils, plants, animal substances, manures, &c. Students taken with special reference to their becoming instructors.

A course of Lectures upon *Scientific Agriculture,* by Prof. NORTON, will commence about the middle of January, and continue two and a half months. This course is intended to present a plain and intelligible view of the connections of science with agriculture, which may be understood by any farmer. Mr. Wurtz proposes to lecture on some points of Applied Chemistry during the summer term.

The lectures of Prof. SILLIMAN on Geology and Mineralogy, and those of Prof. OLMSTED, on Natural Philosophy, Astronomy and Meteorology; also the college libraries and cabinets, are accessible to the students.

For information as to terms, &c., apply to Prof. NORTON,
Oct. 9, 1850—4t. *New Haven.*

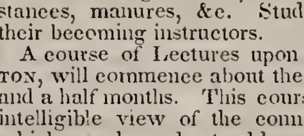
ANDRE LEROY,

Nurseryman at Angers, France,

ALREADY well known in the United States and in Europe, having obtained at the last French National Fair, in Paris, the only Gold Medal awarded, both for his Fruit and Ornamental Trees, begs leave to inform his friends and the public in general, that he is now ready to execute, with the greatest care and despatch, all the orders that might be sent to him. His Catalogues may be had on application to his agent in New-York, Mr. EDOUARD BOSSANGE, merchant, who will receive and forward all orders for Mr. LEROY, directed to his care, and also pass through the Custom-House and forward to their respective destinations, without any trouble to the importers, all Trees and Plants ordered. Dec. 1—3t.

Agricultural Warehouse and Seed Store,

No. 197 Water-street, (near Fulton,) New-York.



THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c. &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

Jan. 1, 1851—tf. JOHN MAYHER & Co.

Transactions N. Y. S. Ag. Society.

THE Transactions of the New-York State Agricultural Society, vols. 1 to 9, for sale at the Office of "THE CULTIVATOR"—price $1 per vol.

Contents of this Number.

Improvement in Agricultural Implements, ... 33
Market Gardening and High Farming, by Hon. F. Holbrook, 35
Harvesting Machines in use at the West, by C. H. McCormick, L. L. Bullock and John Johnston, ... 40
Notes of a Tour in Central New-York, by Prof. J. P Norton, 43
Profits of Poultry—Crops in Nova Scotia, ... 44
Protection from Winter Winds—The Seventeen-year Locust, .. 45
Transplanting Shrubs—Answers to Inquiries, ... 46
The Spanish Chestnut, and Experiment with a Plum Tree, by D. T.—Sharp Frosts in Valleys, &c., ... 47
The Black-faced Sheep of Scotland, ... 48
Center-draft Plow, No. 40—First Wheat raised in Western New-York, by S. B. Buckley—Small Potatoes for Planting, by T. S. Gold, ... 49
Wool and Gum, by J. S. P.—Devon Breed of Cattle, by J. N. Blakeslee, ... 50
National Agricultural Bureau, ... 51
Economy of Manures—Bones for Manure, by W. A. Ela, ... 52
Supposed Transmutation Explained, ... 53
Poultry House and Grapery—Large Yield of Hay, ... 54
Remarks on Irrigation, by Col. J. W. Lincoln, ... 55
Studies in Natural Science, by J. Holbrook, ... 56
Answers to Inquiries—New Publications, ... 57
N. Y. S. Ag. Society—Domestic Economy, ... 58
Monthly Notices—To Correspondents, &c., ... 59

ILLUSTRATIONS.

McCormick's Reaper, ... 41
Hussey's Reaper, ... 42
Group of Trees, ... 45
Training Pears, ... 47
Black-faced Sheep, ... 48
Center-draft Plow, No. 40, .. 49
Wheat and Chess, ... 53
Emery's Seed Planter, ... 62

Great Sale of Dairy Stock.

THE subscriber will offer for sale, without reserve, at Public Auction, on TUESDAY the *25th day of March*, 1851, at 12 o'clock, on the farm on which he resides, at Morrisania, Westchester county, New-York, upwards of

100 Head of Cows and Heifers.

About 50 head of them are Native and Amsterdam Dutch Cows, selected by the subscriber with reference to milking qualities. The remainder, about 50 head, are grades—half, three-fourths and seven-eighths blood Heifers, from 1 to 5 years old, bred by the subscriber, out of the very best Cows, and got by the celebrated imported short-horned Bull "Marius;" and so far as they have come to maturity, they appear to combine, with most faultless symmetry, nearly every point indicative of perfection in a Dairy Cow.

Taking the whole dairy together, it is perhaps the best selected in the United States. The Cows, with a few exceptions, are all young, and in calf by the fine Bull "Amsterdam."

The many premiums I have been awarded, by the State Agricultural Society and by the American Institute, give evidence of success as a breeder.

I will also sell my short-horned Cow, that took the first premium at the American Institute Fair, in October last.

Two 2-year old Heifers and one yearling, all thorough bred.

Two yoke of very superior WORKING CATTLE, with several fine HORSES.

One BOAR, of the Russian grass breed.

One imported improved (white) Berkshire SOW and PIGS.

One Suffolk SOW and PIGS.

The number of hogs in all, will be from 50 to 60, and some of them are as fine as can be produced.

All the Farming and Dairy utensils, which are numerous.

☞ A Catalogue and description of each animal, will be given on the day of sale. Stock purchased to be sent to a distance, will be delivered by the subscriber on ship-board or railroad cars, in the city of New-York, free of risk and expense to the purchaser.

Morrisania is nine miles from New-York by Harlem Railroad.

THOS. BELL.

Jan. 1, 1851—3ms.*

Albany French Burr Mill Stone Factory.

ADAM R. SMITH, late of Troy, having located at the corner of Broadway and Quackenbush streets, Albany, N. Y., invites the attention af Millers and Millwrights to his large stock on hand, inclusive of finished stones, together with his facilities for filling orders at short notice. ☞ Great care being exercised in their manufacture, by the most experienced workmen, and purchasing entirely for cash, which enables him to procure stock at the lowest market prices, he can offer superior advantages to customers.

Dutch Anchor Bolting Cloth,

Of extra heavy quality, and every other article used in milling, always on hand.

Notice.—Having supplied to Mr. Adam R. Smith, the stock of Burr Stones for his shop in Albany, we can say that his selections comprised only the best of our whole importations, which were of unusually good quality this season. M. & W. Livingston.
70 Broad-street, New-York, Sept. 9, 1850.

Troy, Sept. 17, 1850.

We have had the pleasure of several years acquaintance and intercourse with Mr. Adam R. Smith, and consider him a gentleman of high character, and particularly scrupulous as to his engagements. He will undertake nothing that he does not know how to perform.

Elias Plum, Pres't Com'l Bank Troy.
F. Leake, Cashier do.

Jan. 1, 1851—2t.

Agricultural and Horticultural Implements, and

Field and Garden Seeds.

UPWARDS of *one hundred* different kinds of Plows, and a corresponding variety of all other Implements for the Farmer, Planter and Gardener; embracing the largest and most complete assortment to be found in the United States. Also, Field and Garden Seeds, a large and varied assortment. A. B. ALLEN & CO.,
Jan 1, 1851—tf. 189 & 191 Water-st., New-York.

Emery's Horse-powers and Threshers.

EMERY & Co.'s Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York.
Jan. 1—1t BARR & ATTERBURY.

Imported Suffolk, Essex and Middlesex Swine.

THE subscriber has now on hand and for sale, some pure bred Suffolk, Essex and Middlesex Swine, from the importation of the late William Stickney, of Boston. All orders and selections intrusted to Isaac Stickney, will be promptly attended to, and selections made with great care. ISAAC STICKNEY,
Jan. 1, 1851—1t. Chatham-street, Boston.

Farmer Wanted.

A MAN and his wife, (without children preferred,) to take charge of a valuable farm in one of the most eligible locations in New England, and a desirable situation for an active, intelligent man.

Applications, stating all necessary particulars, the compensation expected, &c., may be addressed to Box No. 1668 Post-office, Boston, *post-paid.* Jan. 1, 1851—1t.*

Wanted to Purchase,

A SMALL FARM, in the State of New-York, Pennsylvania or New Jersey, near a flourishing village, worth about $2,000, with Fruit Trees, and in good state of cultivation.

Address FARMER, (post-paid,) Pettengill's Advertising Agency, 10, State-street, Boston, Mass. Jan. 1—1t.*

"COATE'S HERD BOOK"

OF SHORT-HORNED CATTLE, illustrated with numerous Portraits of Celebrated Animals, complete to the present time, in nine volumes, octavo, price £9 9s.

PARTICULARS OF EACH VOLUME, WHICH MAY BE HAD SEPARATELY IF REQUIRED.

New Edition, containing the Pedigrees of Bulls, as found in the 1st, 2d and 3d vols., from No. 1 to 2897, inclusive, price 21s.
New Edition, containing the Pedigrees of Cows and their Produce, which appeared in the 1st, 2d and 3d vols, price 31s. 6d.
Vol. 4, containing the Pedigrees of Bulls, in continuation, from 2898 to 6699, inclusive, price 21s.
Vol. 5, in Two Parts, containing the Pedigrees of Cows and their Produce to the year 1842, price 31s. 6d.
Vol. 6, containing the Pedigrees of Bulls, from No. 6700 to 7749, with upwards of 1,250 Cows and their Produce, to the year 1845, price 21s.
Vol. 7, containing the Pedigrees of Bulls, from No. 7750 to 8799, with upwards of 1.200 Cows and their Produce, to the close of the year 1845, price 21s.
Vol. 8, containing the Pedigrees of Bulls, from No. 8800 to 9852, with upwards of 1,550 Cows and their Produce, to the 31st of December, 1847, price 21s.
Vol. 9, containing the Pedigrees of Bulls, from No. 9853 to 11080, with upwards of 1,850 Cows and their Produce, to the 31st December, 1849, price 21s.

Published by H. STRAFFORD, 3 Camden Villas, Camden Town, London. Jan. 1, 1851—2t.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

☞ All subscriptions not renewed by payment for the next year, are discontinued at the end of each volume.

Advertisements.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

◆

THE HORTICULTURIST,

AND

JOURNAL OF RURAL ART AND RURAL TASTE,

Edited by A. J. DOWNING, Newburgh,
Author of Landscrape Gardening, Fruits and Fruit Trees of America, Cottage Residences, Country Houses, &c., &c.,

Is published monthly, at the office of The Cultivator, Albany, by Luther Tucker, Proprietor.

Terms.—Each number contains 48 pages, embellished with a Frontispiece and numerous Illustrations, printed on the finest paper, and in the best manner. Price, $3 a year—Two copies for $5.

THE CULTIVATOR.

Charles F. Morton

TO IMPROVE THE SOIL AND THE MIND. Mortonville

NEW SERIES. ALBANY, FEBRUARY, 1851. VOL. VIII.—NO. 2.

Practical Husbandry.

How to Improve Worn-out Lands.

EDITORS CULTIVATOR—The subject of improving old lands, is one fraught with such interest to farmers occupying the eastern and part of the middle and southern States, that there is little danger of too much being said about it, provided what is said is of a practical nature. Before proceeding to the details of the subject, I wish to call attention to a fact which appears for the most part to have been too much overlooked in this country. It is, that a certain amount of capital is always required to conduct successfully a certain number of acres. ARTHUR YOUNG, in his *Farmer's Calendar*, gives the amount of capital, laborers, utensils, &c. &c. necessary, or supposed to be necessary, to conduct successfully an English farm, but this data would perhaps be of little use in this country. There is no greater barrier within my knowledge, to the success of our farmers, than this same want of capital. So far from having means at their command, we find, on looking around us, in many sections of the country, our farmers heavily in debt, and paying a heavy interest. Their resources, therefore, are hampered in the start; and nothing but hard labor, and the most rigid economy, enables them to get hold of anything with which to improve.

To what cause are we to attribute this want of means? Is it because farmers are in very many instances poor? I answer, no. No man is poor who owns 20 or 30 acres of land within a day's journey of a good market, and who has a cash capital of $1000; but a man may be poor, very poor indeed, to all intents and purposes, who owns 100 acres of land in such a situation, without a dollar of cash capital to improve it with. This then is equivalent to saying that I consider the passion for owning a great number of acres, one of the greatest misfortunes to our working farmers. How common is it, to hear a man who owns 30 or 40 acres of land, spoken of as one who has only a *potato patch,* and yet perhaps this very man on his potato patch, raises more than his neighbor who owns 100 acres. Depend upon it, this is all wrong; the best farmer is not the man always who has the most land, but the man who raises the greatest amount from the least number of acres and with the least expenditure. It is far easier and better to get fifty bushels of corn from one acre than two. If I were called upon for advice by some one who owned 50 acres of land, and who was about to buy 20 more, I should certainly say,—rather sell 20 of what you possess, than buy 20, unless your cash capital warrants it. With money in hand, stock can be bought on the most favorable terms, and just at such times as it is wanted. With money in hand, labor can almost always be obtained, just when it is required. With money in hand there is no need of "store bills"—goods can be bought cheaper and better for cash.

But I cannot pursue this matter here: my present purpose is to say something about the improvement of old lands. The subject should be considered under two heads. The improvement of sandy or light soils; and the improvement of clay or heavy soils. I shall take the first for the present article, endeavoring to keep as near as possible to practical experience without favoring one theory or another.

What is the first thing necessary for improving a worn-out sandy soil? I answer, to change its texture, and bring it into, or approaching, that state called loam. How is this to be done? I answer, by a mixture of heavier soils, such as clay, and by the application of barn-yard and other manures, in a proper manner. Any man who has an accessible swamp upon his farm, containing good muck, has the means in his power of enriching his soil. If he has not one of his own, perhaps some neighbor, living at no great distance, may own one; and if it be large, he may have enough for his own use and be induced to sell a certain number of loads yearly for a small compensation. But as it is not always in our power to obtain clay or muck, we must mainly depend upon manures. The *collection, preservation* and *application* of manure, then, becomes a very important matter to the farmer.

THE COLLECTION OF MANURE.—About this, I believe we are, most of us at least, very far out of the way. There is a waste of manure on most of our farms every year, so great that could it be presented to our minds in the light it ought, would, I am sure, startle us. Many farmers think they have not time to *make* manure, and yet without manure, they are well aware that they can grow but poor crops. Leaves, weeds before seeding, dirt from road washes, the wood-yard, the fowl-houses, the pig-pens, when properly managed, supply a vast amount of valuable manure. The first four named, should be incorporated with the droppings and litter of the barn-yard and stables; the fifth should be mixed with plaster and ashes, according to the receipt in the May number of the Cultivator for 1850, page 181, and which I think is certainly one of the finest composts I ever used. The pig-pens should be kept well littered with straw, leaves, weeds, &c., and the farmer will be amply repaid for the trouble it will cost him.

Straw is so valuable for converting into manure, and contains comparatively speaking, so little actual nutriment as food for stock, that I think it ought seldom to be used for the latter purpose. Some excellent remarks upon this subject, from the pen of Mr. John Johnston, of Geneva, will be found in last September's Cultivator. I feel sure that they will accord with the experience of all those who have tested the matter thoroughly. The bare droppings from stock, make comparatively but a very small quantity of manure. It may be said that although small in quantity, it is more highly concentrated, and will go further. To a certain extent, this may be true; but it is a well-known fact, that the whole mass of straw, leaves, &c. &c., when incorporated with the droppings and saturated with the liquid from the stock, becomes almost as valuable as the clear droppings, and may be made to exceed it many times in bulk. It is therefore better economy to pass the straw through the yard in order to get a greater amount of manure to apply to the growth of valuable crops. Those farmers living near villages or cities, have opportunities for obtaining manure which are out of the power of those farther off, unless the means of transportation are easy. We presume no good farmer will neglect any opportunity afforded him to obtain a supply of manure at rates that will repay him.

The Presevation of Manure.—I am fully of the opinion that manure ought to be well rotted, to be applied to the greatest advantage on sandy soils. For that purpose, therefore, the manure of the farm should be secured, either under sheds for the purpose, or in yards so planned as to prevent loss by drenching rains, or leaching off, and made one year to be applied the next. The heaps should be covered with dirt or plaster of Paris, in order to prevent the escape of ammonia.

The Application of Manure.—I have found by repeated trials, that about two to three inches is the best depth to cover manure when applied to sandy land. I should always prefer plowing the ground first, when practicable; spread the manure broadcast, evenly over the surface, after which, harrow in well with an iron tooth harrow. If manure is used, which is not rotted, it should be put on before plowing, and the ground well harrowed afterwards. I have obtained great benefit from top-dressing grass lands early in the spring, with well rotted manure. There is a custom prevailing in some places, which I think cannot be approved of by the best farmers—namely, manuring the corn crop in the hill, with barn-yard manure. In behalf of the custom it is urged that a greater quantity of corn to the acre can be raised in this way, and that the manure can be made to cover a greater space. The fact is, it is a forcing system; the idea is the making a good crop, not the general improvement of the land. If the season prove moist, a good crop may doubtless be raised in the way named; but should the season prove dry, the manure in the hill would damage more than benefit the crop. The only advantage gained, is in giving the corn a start. As to covering over a greater space of ground, I can only say that I think an even culture the greatest beauty of farming, and my dislike to the system in question is, that it militates against this. Corn is a crop, the roots of which run out every where in search of food; if manure is spread evenly over the surface, as soon as the roots of the corn begin to extend themselves, they will be sure to find it, and at a time, and in such quantity, as is best suited to the growth and development of the plant—and the ensuing season our eyes will not rest upon an uneven field of oats; here a tall cluster of spires, and there an army of dwarfs. I have stood some distance off, and looked over a field treated in this way, and could count where every hill of corn had been the season before. Such a system of husbandry is not calculated to improve our worn-out land. We want an even culture, calculated to benefit the whole, not a part of the land. Broadcast applications of manure, evenly spread over the surface, are always the best.

Plowing Sandy Soils.—So far as my experience goes, I have found six inches the best depth to plow sandy soils and loams. I am aware it is very fashionable to say "plow deep," and I think this is said too much, without any discrimination. In clay soils, there is little fear of going too deep, but there seems to me no reason in plowing a soil to a great depth, that is already too porous. Even sandy loams are not benefitted by too deep plowing, and as to subsoiling any light soil, except, perhaps, for the purpose of raising root crops, I think it ruinous.

Fencing.—The first object of attention in regard to fencing, should be to get line fences in good order. "Good fences make good neighbors," is an old and true adage. The lines should be evenly divided, and memorandums to that effect should be exchanged between the parties. The kind of fences will necessarily depend much upon the location occupied; in some places timber is abundant, and stone scarce; in others the reverse of this occurs.

In all places where stone fences can be made, they are greatly to be preferred; they are stronger, more durable, and less expensive. I have often been surprised, in going through different sections of the country, to see a field covered with loose stones, surrounded with a poor-looking, old rail fence. The owner had perhaps plowed it for years in that condition, and the idea never seems to have entered his mind, that the stones could be converted into a fine fence, bettering the condition of his farm, and giving it a thrifty appearance.

I have said that stone fences are less expensive than other kinds; as an idea to the contrary seems prevalent, some explanation may be necessary. Let us make a calculation as to the relative cost of stone and wood fences. I mean, of course, where stone is abundant. Worm fences are probably the cheapest kind of wood fences.

1 panel, of 12 feet, will cost as follows:

7 rails at 6d each,	$0 42
2 stakes, 3d, each,	06
Labor putting up,	02
Total,	$0 50

This estimate, in the section of country where I reside, would be considered low. Now, I have had good single walls built, three feet bottom, (singled up to a foot across the top,) and four feet high, (such walls will stand better than double ones, unless sunk below the frost, and made very large,) for from 50c. to 63c. a rod, including every expense, board of men, teams, &c. Such a fence, then, costs not as much as worm fence, and is far stronger and more durable. A fence of this description will resist cattle and horses that would vault over, or tear down, a seven railed worm, or five railed post and rail fence.

The expense attending fencing a farm is always great, but there is no outlay that pays better than a judicious system of fencing. Where stone or timber is plenty, fields can scarcely be made too small. I should be glad if the tillable land of my farm was fenced in acre lots. It is, perhaps, to the system of fencing in small lots, more than anything else, that farmers living in mountainous lands, are enabled to live and do so well as they do. In order to get rid of the stone on their land, they are necessarily compelled to fence in small lots. This gives them an opportunity to shift their cattle often from field to field, thereby obtaining for them fresh pasture almost daily. I recently heard of a man who grass-fatted twenty head of cattle on twenty acres of land. This seems at first view, almost incredible, but a glance at his plan will show that it is not impossible. He fenced his fields into acre lots: when the grass was well grown, he turned his twenty head into one field. This they eat off pretty clean, and manured pretty well in a day—he then, next day, turned into the next field, and so on till the whole were used. By this time the first field had had twenty days rest, and was covered again with an abundant herbage. The same system was pursued througout the season. Now, had these twenty head of cattle been turned into a twenty acre field, it would not have been long before they would have had it gnawed down to the earth, and so far from fatting, they would, in all probability, have had hard work to find a living on it. If any one should think it an objection to fencing in small lots, that it takes up too much of the land, I think upon trial, that the advantages accruing therefrom, will be found so great as to amply compensate for the loss of land.*

In many parts of the country, it seems to me that there is no system of fencing at all—at least I should judge so from the perfect want of plan and order with which fields are enclosed. We have seen them of so many different shapes, sizes and figures, that it would require a pretty good geometrician to tell what they were. I know that plain farmers cannot always have everything according to the rule and plummet, but I think some improvement might be made in this department of farming, which would be of great advantage to the farmer, as well as contributing to beautify the general face of the country. Upon many farms where I have been, in this and other sections of country, I have found a great source of inconvenience arising from the want of lanes. I have known farmers to drive cattle nearly half a mile to get to some particular field, which could have been reached in 200 yards, had a proper lane been made where it ought to have been. In many instances, the use of whole fields are lost for a season, from the want of lanes. An impression seems to exist, that they take up land. If farms are properly laid out, lanes, which will make themselves easy of access all over, will take up but little room, and it will not be lost, for they always afford a great abundane of good pasture.

General Improvement of the Farm.—There is no quicker way within my knowledge to improve a sandy soil, and no one calling for less outlay, than the following: Fence off a number of fields in one, two, or three acre lots, according to the size of the farm; get one or two of them seeded well with common clover. Begin with the first lot; turn in as many hogs as it will keep well during the season; a little corn in the fall will make them fit for market. Next season do the same; the third season the land will be rich, and can be plowed for corn, or any crop you please. Go on to the next field with your hogs, and so on till the whole is exhausted. This plan is well adapted to fields situated on steep side-hills, which are difficult of access, and to which, in consequence, manure cannot easily be carted. It is said hogs will do well on clover without water, but I think they will do better with it, and should there be no water in some of the fields, it can be supplied from other fields. A half hogshead, filled once a week, and left where it could be supplied to them from large troughs, would answer a good purpose in lieu of anything better. Great care must be taken to keep the hogs well rung and the fences must be looked to often, as hogs are sometimes unruly, although, as a general thing, I think that when animals are well fed and taken care of, they are not apt to be a trouble to either owners or neighbors.

---

* We are unable to agree with our esteemed correspondent on this point. We think the division of land into small lots, is liable to objections that are by no means balanced by the advantages. It creates a great expense in the erection and support of fences, occasions the loss of land, and increases the expense of cultivating crops. In the case of stone walls, they necessarily cover several feet in width, and besides the ground they actually cover, there is always a strip on each side which cannot be plowed, and whenever the field is in tillage, the use of this strip is lost. If land is divided into "acre lots," the number of turnings in plowing and other work, is much increased, and in consequence of the time thus lost, much less work is done in a day. As to the advantage of shifting stock in the way proposed, there are different opinions. Some who have tried both small and large divisions, for pasturage, have given the preference to the latter. To fat an animal on an acre of grass, is doing well, but not better than is frequently done in the best grazing districts, without resorting to such small divisions as our friend recommends. Eds.

Irrigation.—No good farmer who has it in his power to irrigate a portion of his farm, from brooks or streams running through it, will, I am sure, neglect so important a means of enriching it. A neighbor of mine, a year or two ago, found that he could obtain a supply of water from a mill pond, some distance off, by which he could irrigate some 40 acres of his land. He bought the right to do so, and the right of way across the property belonging to the miller. I think he paid $400 in cash for it, and is to pay $25 a year besides, as long as he chooses to let the water run on his meadows. Some of his neighbors thought him crazy, but he has already received benefit enough from it, to show that he was warranted in paying the price he did. The difference between the grass he cut before the water was put on, and what he cuts now, is truly astonishing. I have myself, this fall, succeeded in carrying a stream of water from a brook running through a part of my farm, to a meadow some 300 yards distant, containing about three acres, and look confidently for the increase in my next years' crop of grass to pay all the expense of doing it, which was about $18. I have some streams from the hill-sides, during the spring and part of the summer, which do good work on my pastures and meadows in their vicinity.

But the length of my communication warns me that it is time to stop. One word to my friends of the plow. The new year is come upon us; let us resolve with it to begin a better and more thorough system of improvement upon our old soil; let us perfect old systems, if they are good, and plan out new ones. Read and improve ourselves. If you happen to belong to that class who already know enough and have nothing to learn, pray write and disseminate your knowledge, that we who would gladly learn all we can, may benefit by it. H. C. W. *Putnam Valley, N. Y., Nov.* 28, 1850.

◆

Manures.---Top-Dressing.

We are indebted to Hon. John W. Proctor, of Danvers, Mass., for a copy of an essay on Top-dressing Grass-Lands, written by Mr. Charles L. Flint for the Transactions of the Essex County Ag. Society. The length of the paper precludes the possibility of our publishing it entire, and we therefore give the following extract, which contains many useful suggestions:

It is a very common practice to suffer the manure from the barn to lie exposed for months to the winds and rains of summer and winter. Many farmers have no arrangement by which the liquid and most valuable part of stable manure, is saved, and yet, under all these disadvantages, they are too apt to congratulate themselves on having so many loads of manure. They do not consider that it is the quality, and not the quantity, which adds richness to the soil. The practice of digging a cellar under the barn, is becoming more common among enterprising farmers, and it may be said that the increased value and quantity of the manure, is enough to pay far more than the interest of the extra expense. Sheltered manure is far more valuable; but in cases where this has not, and cannot well be done, much of the real value may be saved by forming the yard so that nothing may escape. Let peat mud and loam be thrown in to absorb what would otherwise be lost. Plaster, occasionally thrown into the yard, is like money—I will not say in the savings bank, but rather put to compound interest.

In Flanders, where the greatest economy is practiced, the liquid of a single animal is estimated at from ten to fifteen dollars a year. This, applied as a top-dressing, has a surprising effect. No one should neglect to form a compost heap; it may be so made as to form an extremely valuable article for top-dressing. A quantity of meadow mud, should be dug out in the autumn, for this especial purpose. That this is indispensible, will be seen from the fact that two cords of peat mud, added to one cord of good stable manure, will make a compound of three cords as valuable as clear barn manure.* This has been tried repeatedly, and is constantly done by those who are ambitious to excel in farming. To this compost should be added, from time to time, all the animal and vegetable matter adapted to enrich the soil; woolen rags, the remains of fish, the blood and flesh of animals, the hair of animals,—all these make an exceedingly rich manure. A most intelligent gentleman, connected with a wool factory, informs us that a cord of matter collected at the establishment, is worth at least five or six cords of the best stable manure for a top-dressing. This we cannot doubt, for here are the blood, the wool, pieces of the skin of the animal, and many other substances, all collected together. A fermentation takes place by which the richest gases are formed. Such a compost heap, with an addition of loam and mud, would be invaluable for a top-dressing. But though, in most cases, all these substances cannot be procured, many of them can and should be saved by every one who is desirous of improving his lands. Those who are near the sea, or near the market, can procure an abundance of fish to add to the compost. Nothing is better for soils than this. Ashes should also be added, and when additions of manure are made, they should be covered with mud or loam to prevent waste.

---

* Peat varies much in its value as a manure. Some may be worth what it is here estimated at; but we think it put too high to be received as a general rule. Eds.

We need not enter more minutely into the details of forming the compost heap; it is sufficient to say, in a word, that everything capable of fermentation may be added to it. The lower layer should be of loam or mud. Nothing is more common among farmers, on the death of a horse, or any other animal, than to throw the body away. It is estimated by some, that the body of a single horse, when divided and mixed with peat, mud and loam, will make a compost worth fifteen or twenty cords of the best and richest manure. This is perhaps too high an estimate, but animal substances ferment rapidly, or rather they may be said to putrify without fermenting, so quick is their decomposition. Leaves, grasses, moss, straw, and other substances of like nature may be used, and when they are well fermented, the heap should be thrown over; and if it is made long and narrow, so as to expose the greater surface to the air, it will be better. Whenever such a compost has been used as a top-dressing, it has produced the most astonishing effects. Many experiments have shown that this is the best way of using such a compost. In the fertile county of Hertford, in England, it is seldom used in any other way. It cannot be too highly recommended.

Animals fed on rich food make the most valuable manure. This will serve to show why the manure from the pig-sty is so fertilizing. Swine are fed on a great variety of rich food. The actual profit of raising them in some places, arises mainly from the amount of substances they will mix together and make into good manure. Let the sty be supplied at intervals with mud, loam, and other vegetable matter, and farmers will not complain of the cost of these animals.

Liquid manures are highly useful to grasses. Care should be taken to apply them, also, to the compost heap. The richness of manure from the sty, is owing mostly to the great quantity of liquid matter; hence the importance of adding a great variety of vegetable substances, loam, and mud. In a word it may be said that all liquid manures contain a large amount of nitrogen, which is an important ingredient of ammonia. The importance of saving the liquid of stables, either with the compost, or to be applied by itself, may be seen, also, in the fact that the exceeding richness of guano and the ordure of all fowls and birds, is due to the union of liquids and solids. Spent ley from the soap boiler, is also a powerful liquid application. It shows its good effects for years, when properly applied.

After fermentation has taken place in animal manures, in the compost heap or elsewhere, they may be spread without much loss by evaporation; and hence it matters not whether the top-dressing is applied in the autumn or in the spring. Plaster is better spread in the spring, when the moisture of the earth makes it immediately available. Not so with other manures. Some prefer the autumn for spreading these, while others prefer the spring, just before the thick grass surrounds and protects them from the sun and wind. The soil in autumn is not injured by the loaded cart, as it is apt to be in spring. Others still apply them after the first mowing, and before the summer rains. The new crop preserves the manures from drying up and wasting. This, however, is ordinarily too busy a season to attend to it with convenience.

◆

Natural Application of Chemistry to Agriculture.

By J. H. Salisbury, M. D., Albany.

The advantages to be derived from knowing the composition of rocks.—Soils are rocks broken and worn more or less fine. If a portion of any soil be taken and examined carefully, a greater or less number of small fragments of rock can be easily discovered with the naked eye. To separate these, place the soil in a small dish, and throw on a small quantity of water; agitate, and then decant or pour off the riley or turbid liquid, which holds in suspension the finer particles of the soil. Repeat this a second, third and fourth time, or till the water which is poured on the soil after agitation, appears clear, or free from any fine particles of soil.

Let the washings stand and settle. While this is going on, examine the materials in the dish which are too coarse to be suspended by the water.

These will be found to be fragments of rocks. In some soils, nearly or quite the whole of them will consist of one kind of rock; in others many kinds mingled together.

After the finer particles in the washings have subsided, pour off the clear liquid, and dry the fine soil which has settled. On examining this with a small magnifying glass, the whole of it, except a small quantity of organic matter, will be found to be composed of fragments of rocks, and simple minerals, in all respects similar to the larger fragments previously examined, but many of them very minute.

How came the rocks in this form? The rocks came in this form mainly through the influence of air, frost, water and acids. We, by a little observation, can see and understand how powerful an agent water is in breaking down rocks and depositing them in the form of soil. We need but visit any of the thousand little streams that come babbling from the hills, through as many rocky ravines. By tracing any one of the busy rivulets to its source, and noting all of the materials over which it flows, and gathering a specimen of each, then descending to the plains, where it more leisurely glides, where the materials which it has gathered in its course among the hills are deposited—at first the more coarse, then the more fine—we shall find that the samples gathered correspond in almost every respect, except in that of fineness, with those which have been brought down from the highlands by the stream, and left on the plain in the form of soil.

This is what we observe on a small scale. The larger streams, as well as the smaller, are engaged in the same work of wearing down in one place and depositing in another. Water, holding in solution acids,—as carbonic, sulphuric and nitric,—exercise an action in decomposing the rocks with which they come in contact; but this action is chemical, not mechanical, and very limited too, when compared with that of the busy rivulet, the ever plodding river, the surf-beating lake, or the storm-driven ocean. Frost and atmospheric changes, also, exercise a powerful influence. It is through the action of these agents, that the soils are formed, fitted and sustained, so as to support vegetation in such abundance and luxury.

Some soils are made up almost entirely of one kind of rock. When this is the case, it is evidence that the soil has not been transported from any other place, but that it has been formed mainly by the decomposition of the rock on which it rests. This occurs in many places where there is no drift or transported materials, and the same rock extends over a considerable range of country.

The advantage of knowing the composition of the rock on which such a soil rests, is, that by knowing it, we know the general composition of the soil. Soils are often made up of the worn down fragments of a number, and sometimes of a great variety of rocks and simple minerals mixed together. A soil of this description is generally drift, i. e., has been transported from a distance, unless it occurs where a number of rocks crop out in the same vicinity.

By knowing the composition of the various rocks which compose this soil, the composition of the soil can be approximately determined or arrived at; in other words, we have a general idea of its constituents.

This knowledge could be very advantageously used in the purchase of lands, in selecting grain farms, grazing farms, or in deciding in a general way, upon the kind of crop or crops best suited to a soil, and what it would probably be necessary to add in order to fit it for any particular grain, root, fruit, &c.

Other things being equal, the more completely the fragments of rock are broken down or divided, the more productive the soil which is formed. The reason of this is, the finer the particles, the more readily are they dissolved or separated into their proximate inorganic constituents. They must be dissolved before they can enter the plant as food.

The advantages to be derived from knowing the precise composition of soils.—The knowledge which we derive from studying or knowing the composition of rocks, although very useful and important, is so, for the most part, only in a general way. It gives us a kind of information which we could gain by no other means, and may be considered as a stepping-stone to a series of inquiries or investigations, more special and minute, to wit: the study of the composition of soils.

One great aim of the agriculturist, should be to know the precise composition of the soil he cultivates. If he knows this, he is able to calculate the actual and the percentage amounts of the several inorganic bodies and organic matter, which enter into the composition of an acre or any given area of his land, at the depth of six, ten or twelve inches. This gives him the quantity of each ingredient of his soil which lies within reach of the plants he grows. The practical utility of this knowledge, will be more plainly set forth when we come to speak of the advantages to be derived from knowing the composition of cultivated plants, and that of the substances used for manures.

The practical utility of knowing the composition of cultivated plants.—It is not enough for him who tills the ground to know the constituents of his soils, and that of the rocks on which his soils rest. Every one who follows the pursuit of agriculture, who attempts to avail himself of the advantages which practical chemistry affords, finds that after he has obtained an analysis of his soil, and that of the rocks on which it rests, that although this information is of great practical use, yet there is still a something wanting in order to regulate and adjust the compass which is to guide him understandingly and safely on. He says to himself, "I understand what the ingredients are which compose my soil, but I do not know what my crops remove from it, as I am ignorant of the substances which compose them. If I did know what ingredients entered into the composition of my several crops, and the percentage quantity of each ingredient, then I could calculate nearly the exact amount of each that is taken away from my ground, and could adopt measures to return them as fast as removed."

The advantages to be derived from knowing the composition of manures.—Suppose, now, that he knows the composition of his soil, rocks and the plants he cultivates; he still feels that there is yet a link wanting in order to complete the chain. Says he, "I know now the quantity of each inorganic ingredient that is removed yearly from my soil. It will not pay me to go to a commercial establishment and purchase these substances. My crops, if I do this, will hardly pay me for the food they eat. I must take some other course. Here are a variety of substances called manures. If I learn the composition of these, I shall then know whether they contain all the bodies which are removed by my crops. If they do, then I can add such of them as will yield to my soil the ingredients which are removed. This is admitting that my soil is fitted to produce in the best manner any crop which I wish to to grow on it when I begin. But suppose my soil is poor, or does not contain all the ingredients in a sufficient quantity to be productive. My first step is to find out its precise composition. After I have determined the percentage amount of each ingredient which it contains, I then know what bodies to add, and in what quantiny to fit it to grow any crop I wish it to produce.

"I now understand the mechanical condition of my soil, the ingredients which compose it, the ingredients which enter into my crops, and the ingredients which make up my manures. If the mechanical state of my soil is such as to make it too wet, too cold, too adhesive, too loose, too fine or too coarse, I have only to drain it, or to add such materials as will make it less adhesive, or more adhesive, less fine or less coarse, as the case may be, to fit it, so far as the mechanical part goes, to grow any plant adapted to the climate in which it lies.

"If now, my soil is in a proper state, mechanically, and does not contain all the ingredients which I know exist in the plants which I wish to grow on it, all I have to do, is to add such manures as will yield to it the bodies in the proper proportion, which my plants require to feed upon. This is necessary, because my plants cannot travel about and collect their food like animals, but are stationary, and must have everything which goes to nourish them, or to build up and support their several tissues, placed within the reach of their arms or roots.

"I now begin to see my way clear. I feel that this knowledge has entirely changed my mode of farming. You will observe that I do not believe as I once did, and do not transact my business as I used to do. I do not, now, think it advisable, when dealing with my soil, to claim the best end of the bargain—to pilfer, cheat, or rob it of a little, every year, because I have learned that such a course is not for my interest. Although it might at first, perhaps, give me a few extra coppers to jingle at my leisure; yet eventually it would prove a permanent injury, for by it I lose both my reputation and my soil. I find it much better for me to deal honorably and honestly,—to return to my soil an equivalent for whatever I take away. I then feel myself an honest man. My soil admits my honesty, and is ever ready to serve me with the bounty I ask."

The practical use of knowing the composition of the several parts of the animal body.—Our thinking friend now understands clearly that part of his occupation which pertains to the best mode of cultivating plants. But there is another branch intimately, and we might almost say inseparably connected with agriculture; and that is the rearing and fattening of animals. Says our thinking friend as he reasons, my animals subsist upon the plants which I grow upon my soil. They must, then, contain the ingredients which are found in the plants on which they feed. I may hence infer that if I would rear and fatten them in the best and most economical way, I must advance one step further, and study the composition of the several parts of the animal body, and understand the functions or office or duties of the several organs which compose it. I must not only know the composition of bone, the composition of muscle, nerve, fat, membrane, cartilage, hair, &c., with the general percentage of each of these in the healthy animal; but I must also understand what matters pass off through the various organs of secretion, as the liver, kidneys, &c., together with those which go off through the lungs in respiration or breathing, those which are carried off through the skin in perspiration or sweating, and those voided as manures. I must, also, know how the secretions and excrements vary in the same animal when fed, at different times, upon different kinds of food. I shall then understand what part of any given kind of food eaten, goes to feed the bones, what part to feed the muscles, nerves, membranes, &c., what deposited is in the form of fat, and what is rejected and cast off in the form of excrements. This knowledge I know, says our friend, is of great practical use. For instance if I wish an animal to fatten in the least possible time, with the least possible waste of material, it enables me to feed him on such materials as will bring about this end. If I desire an ox or a horse to endure great muscular fatigue, I am enabled to keep him on such food as will best strengthen and support the muscular system.

The proximate compounds for the most part, which we find in animals, we find also in plants. These compounds are made up entirely of ultimate or simple elements. All of the ultimate elements, so far as known, which exist in animals, exist in plants. All of those found in plants exist in the soil and air. These ultimate elements, it is supposed, enter plants nearly, if not entirely, in their simple state. It is the office of the plant to organise or group together these simple bodies into compounds, which take the name of proximate bodies or compounds; which means that they are made up of two or more simple or ultimate ingredients—as carbon, hydrogen, oxygen, &c.

Starch, dextrine, sugar, gum and fibre, are each proximate organic bodies, and are severally composed of the ultimate elements carbon, hydrogen and oxygen, united in each case in nearly the same proportion. It is the office of the animal either to transfer the proximate bodies of plants to its own tissues, without materially altering them chemically, or to change them into others more simple, or into such, the ultimate elements of which have a less affinity for each other, than in the original compounds; or to decompose them entirely into their simple elements.

The animal body seems to possess no power like the plant, by means of which it is able to organise or group together simple bodies into what are called proximate organic compounds. The final tendency of the animal, seems to be to disorganise or decompose organised matter which the plant has formed; the office of the plant to organise inorganic matter, or to group together the simple elements of the soil and air into proximate organic bodies. These proximate bodies, animals decompose and return to the soil, for the plant again to organise—to be in turn disorganised again by the animal. Thus, we see that the soil, the plant and the animal, are merely transforming agents for a portion of matter in its continual round of travel. For this reason we know why it is so useful for the agriculturist to clearly understand them. This will be more fully illustrated when we come to give the composition of rocks, soils, plants, substances used for manures, and the constituents of the several parts of the animal body.

Progress of Agriculture.

Improvement in Agricultural Implements, No. 2.

In our last, we noticed the improvements which have been made in several implements of agriculture, and now continue our observations by referring to other improvements in the same department.

The Cultivator or Horse-Hoe, was introduced into England by Jethro Tull, more than a century ago. It has been of considerable importance in lessening the expense of cultivating many crops, as well as increasing the yield. By using this implement instead of the plow in the cultivation of Indian corn, potatoes, turneps, and other root crops, much less labor is required with the hand-hoe; and the cultivator has, in fact, taken the place of the plow to a great extent. Besides the saving of labor in cultivation, which this change has effected, an advantage is derived, on the drier class of soils, from the better situation in which they are left by the cultivator—it leaves the surface comparatively level and less exposed to be dried by the sun and air than when thrown into ridges by the plow.

The cultivator has been greatly improved in its construction within a few years. Steel has been substituted for cast-iron for the teeth or feet, which, for stiff soil, is of much advantage—cast-iron teeth being only fitted to work in soils of the loosest description. The increased length of the teeth, which some manufacturers have added, is of importance in enabling the implement to do thorough work among weeds and grass without clogging.

A form of this implement called the "field cultivator," has been adapted to working fallows and preparing ground for the reception of seed. It is very useful for this purpose, executing the work with despatch, and leaving the soil loose and friable. A man and a pair of horses with one of these field cultivators can thoroughly work over four times as much ground in a day as could be plowed with the same team, destroying the weeds, (unless they are very large) quite as effectually as would be done by any implement.

The Drill-Machine.—It cannot be claimed that this is a modern invention, as a rude article for depositing seeds is known to have been used by the ancient Egyptians. A general use of the drill, however, has not prevailed in Europe or America till a late day. The credit of its introduction into England belongs to Tull, who regarded it rather as an auxiliary to the system of "Horse-hoeing Husbandry," of which he was the originator. His first drill was constructed in 1701; but this appears to have been only designed for clover and lucerne, and it was not till thirty years afterwards that he obtained a patent for a machine for sowing wheat, turneps, &c. Little progress appears to have been been made in the use of the drill till 1782, when by the exertions of the Bath and West of England Society, attention was generally called to the importance of drill-husbandry, and various improvements were made in the implement. Its advantages have since been considered of such great importance, that it has been pronounced the "sheet-anchor" of English wheat-husbandry. In reference to the benefits which were attributable to Tull on account of the introduction of these implements, it has been remarked:—

> "His drill and his horse-hoe, have saved his country in seed alone, the food of millions; and when used as a distributor of manure it has done, and it will hereafter accomplish, still greater things. It has brought into cultivation thousands of acres of barren craig, the wolds of Lincolnshire, of the deep sands of Norfolk; and its powers are not yet nearly exhausted, for as fresh fertilizers are discovered, the drill evenly and economically distributes them, and as improvements in its construction are continually taking place, there is evidently much yet to be achieved by its use."*

The hand-drill has been used in this country for several years, but its use has been confined mostly to garden cultivation and root crops. The introduction of the field-drill in American husbandry is quite recent, it having been scarcely known ten years ago. Its advantages here appear to be fully equal to those which have been realised in Europe; they may be summed up as follows:—

---

* Scottish Quarterly Journal of Agriculture.

1. It saves seed; 2. It distributes the seeds with greater regularity than it can be done by hand; 3. It deposits the seed at any desired depth, and insures speedy germination; 4. It affords an opportunity to destroy weeds which infest the crop; 5. The crop receives the undivided benefit of the soil; 6. By the the admission of air between the rows, a stronger plant is produced and a heavier crop is obtained; 7. In reference to wheat and other grain, the crop is less liable to blight or mildew; 8. Fertilizing substances may be deposited with the seed, by which the crop is more largely benefitted than it can be by any other mode of using manures; 9. It protects grain against winter-killing.

The drill has been greatly simplified in its construction, and cheapened in price, by our mechanics. With a good machine, a man and a horse will sow eight to ten acres of wheat in a day.

The Reaping-Machine.—This machine is becoming of immense importance, especially in securing the grain crops of the west, where from the great extent of cultivation, and the comparative scarcity of labor, it would be impossible, without it, to gather the harvest. The particular advantages of the different kinds of reapers, were so well set forth in the last number of our journal, that any further observations on the subject, are unnecessary here.

The Horse-Rake.—This is comparatively a new implement, it having been invented but about forty years ago. It has, however, been greatly improved from its first form, and is now much more perfect in its operation, and is worked with much more convenience and less labor than formerly. It saves nearly one half the expense of gathering hay. The implement is made in various ways, though the principal difference is in the material used—the teeth of some being of wood and others of iron or steel wire. The latter kind, if wire of sufficient size and strength is used, answer an admirable purpose in cleaning fallows—drawing out and gathering the roots of couch grass ("quack") and other pernicious plants.

The Straw-Cutter, though not a new implement, has not been brought into general use till within the last twenty-five years. It makes in many cases a very important saving in the expense of feeding horses and cattle. The construction of the article has been greatly improved in respect to its simplicity, and the efficiency of its operation, and the amount of work that can be done in proportion to the power required.

These are some of the improvements which have been made in agricultural implements—to specify all, would require more space than is consistent with our present object. It is evident to those who have had the opportunity of only thirty years' observation, that the scythe, the grain-cradle, the hand-hoe, the vehicles used by the farmer, and nearly all articles, in fact, which he has occasion to use either in the field or the garden, have undergone changes by which they are much better adapted to their respective purposes.

◆

Animal Heat.

The necessity of a certain degree of heat in animals, in order that life may be supported, is well known; but the process by which this heat is produced, and the importance of supplying the materials for its production, is not sufficiently known and regarded. The cause of animal heat may be said to be the same as that which is called into play in ordinary combustion—that is a union of carbon and oxygen. All animal food must contain carbon, and after the food has undergone a proper change by the action of the digestive organs, the carbon is carried by the blood to the lungs, where, by the process of respiration, it is united with oxygen, and produces heat. We give herewith some remarks from a correspondent of the English *Ag. Gazette*, which illustrate this subject in a very interesting manner. It will be seen that he notices the fact that animals in which respiration is rapid, require food more frequently than those in which respiration is slow; and in this connexion it is mentioned that serpents, whose breathing is very sluggish, will live three months or more without food. In proof of the correctness of this remark, we may state, that in the month of August last, five large rattle snakes were placed in the charge of Mr. Gebhard, the curator of the New-York Geological and Zoological collections in this city. Excepting one, which died in December, they have been confined in a box from that time to the present, and have eaten no food whatever during this period. Two of them have brought fourth young, since they have been in the box; one producing fifteen and the other five. The latter were either dead at birth, or died soon afterwards—as they were all dead when discovered; but of the former, twelve are still living, and like the old ones, have been kept entirely without food. It was one of those which produced young, that died. It is, however, in reference to the higher orders of animals that the following observations are chiefly valuable.

All kinds of food consumed by animals must contain carbon in proportion to the temperature of the climate in which they live, and their appetites will direct them to select the food necessary for their sustenance. At each inspiration, an animal imbibes a certain quantity of oxygen from the atmosphere, (which is composed of 79 parts of nitrogen, and 21 of oxygen,) and it must meet with a proportionate quantity of carbon to sustain life. Animal and vegetable food contain carbon in different proportions; that of fat, bacon or pork, as much as 80 per cent; this may be easily imagined, when we consider that candles are made from fat. After lighting the wick, the atmosphere supplies it with oxygen, and in uniting with each other, they produce light and heat. If the extinguisher be placed over it the light goes out, for nothing can burn without oxygen, and most animals kept ten minutes without air, will die.

The quantity of oxygen that is breathed, regulates the appetites which are brought to supply the system with carbon, sufficient to keep the blood always at the same temperature; for from the authority of the best authors, and the practice of many scientific men, the heat of the blood of a man in Lapland is 98°, the same as at Calcutta, or any other place on the globe. In England, the appetite is greater in winter than in summer, for one-eighth more oxygen is imbibed in the former than in the latter season; for the same air that fills a bladder of 80 cubic inches in winter, will fill one of 100 cubic inches in summer—the heat expands it. In summer we breathe less oxygen than in winter, for the warmer the season, the thinner the atmosphere, and the organs of digestion are in a great measure regulated by the season and climate. In this we see a wise provision, the blood of animals being always at the same degree of heat. A man traveling towards the Equator cannot inhale so much oxygen, consequently he loses his appetite, and does not keep up so great a fire within him; on the other hand, a man moving towards the North Pole will become voracious, as the condensed atmosphere will require so large a quantity of carbon to maintain the standard degree of heat. Persons living in the East Indies, or any other hot climate, exist upon fruits, or food containing not more than 12 per cent of carbon; those living in the Arctic regions, will eat at one meal five pounds of blubber or fat meat, and drink train oil or brandy in proportion. Under the Equator animals will eat less, and bear hunger for a long time, but in a cold climate, hunger will soon cause death. According to Liebig, an adult, in taking moderate exercise, consumes in one day 13 9-10 oz. of carbon, and the conversion of this into carbonic acid, will require 37 oz. of oxygen, and that animals differ in the temperature of the blood in proportion to the respiration and size of their bodies; for instance, the heat of a child is 102°, and an adult 98°; in birds it is 104 to 105, and in animals from 98° to 100°. From this it appears that a child, whose respiration is quicker than in a man, requires food more frequently; a bird deprived of its food will sometimes die on the third day, and a serpent, being sluggish in its breathing, will live three months and more without food. Fishes are warmer than the element in which they live, but although they are generally under water, they are not without air; the finny tribes are provided with a bladder containing air, and according to the expansion of the vessel that contains it, they rise to the surface or sink to the bottom.

The pulse and breathing of animals may be compared to the weight and pendulum of a clock, for one regulates the other. Great exertion will cause quick breathing and palpitation of the heart, and it may be imagined that it may raise the temperature of the blood; but such is not the case, for science and observation will show that animals are protected against excessive heat. In a steam engine, its speed or power is regulated by its furnaces, and as the water becomes rarified, the strokes of the piston become more frequent; but when it arrives at a certain power, the pressure from within opens the safety-valve and liberates the extra quantity of steam. In animals, a quick pulse and quick breathing, may produce more heat, but to keep the circulation always at the same temperature, their skins are provided with pores, which open like safety-valves, to let off the heat by means of perspiration.

It is here necessary to observe that some animals never sweat, but when running, the tongue is protruded, and perspiration is secreted from that member, and the mucous membrane of the mouth. It has been supposed that in racers, hunters, &c., the decrease of fat is attributable to perspiration; but it appears to be from another cause. The quick breathing of a galloping horse may have the same effect upon his fat as the blacksmith's bellows have upon the coal; the coal, (which is carbon,) by receiving a strong current of air from the bellows, is soon reduced to cinders, and the fat (which is also carbon,) is reduced by the oxygen which is breathed. Carbon, hydrogen, nitrogen, oxygen, and sulphur, are the ingredients of fibrine, gluten, and casein, which constitute blood, and being conveyed by the arteries to every part of the body, and having deposited the fibrine, which is the chief ingredient in muscle, and its carbon, which is the chief ingredient in fat, it is returned by the veins and undergoes another chemical change.

Fat animals can live longer without food than those in low condition; a fat pig was once overwhelmed in a slip of earth and lived 160 days without food, and was found to have lost 100 lbs. in a month. In an animal kept without food, the oxygen will apply to the fat for carbon to keep up the heat of the body; after that it will go to the muscles, and leave them soft and weak; lastly it will attack the brain, causing delirium and death. The appetites of animals may be increased by a bracing air and exercise; but the quieter they are kept, the faster they will fatten, provided the sheds, houses, or boxes, are kept at a moderate temperature. Nature has provided the brute creation with clothing sufficient to support life in the climate for which they were ordained; but to prepare cattle for the butcher, abundance of suitable provender, quietness and warmth, are essentially necessary for so large a formation of fat.

Notes of a Tour in Central New-York.

Analytical Laboratory, Yale College,
New-Haven, Conn., Jan. 1, 1851.

Editors Cultivator—I might write you still several more letters upon topics particularly connected with Seneca county, which was the chief subject of my last, but fear lest I might seem tedious, and also wish to avoid telling what will be better told in Mr. Delafield's forth coming report.

The last county fair at which I was present, was that of Ontario county at Canandaigua; my time then being limited, I only arrived in that place on the evening of the first day, and left on the evening of the second or closing day of the fair. I consequently had little or no opportunity for seeing the face of the county, or of becoming extensively acquainted with its farmers.

This county has a high reputation among its neighbors for the spirit shown in its fairs, and for the scale on which they are got up. It was a subject of regret that I could not see the stock, the show in that department being over previous to my arrival. It was described as uncommonly good. Mr. John Greig, President of the County Society, has undoubtedly by his countenance and assistance, done much in sustaining and popularizing these exhibitions; though not a practical farmer, he has the sagacity which so many men of large property lack, to perceive how closely the prosperity of any country is connected with the success and the improvement of its systems of agriculture.

The show of fruit and vegetables on the second day, was remarkably fine. The crowd which it attracted, rendered it difficult to enter into any critical examination of the varieties, and I was obliged to content myself with a general survey. There are numerous amateur producers of fine fruit in this vicinity, and the beneficial results of their friendly rivalry were quite apparent.

The fruit business is becoming an interest of much importance in these western sections of the State, and is destined to prove a source of large income to those who engage in it with an appreciation of what is necessary to success. The soil and climate both concur to favor judicious enterprise in this species of cultivation.

Toward the close of the morning, a plowing match came off, and was contested by a rather numerous company. I was present until driven away by the rain, which commenced just before noon, and continued so violently as to interfere seriously with the enjoyments of the day. Some of the work was very inferior, but for the most part it was good, and there were three plowmen who need not fear to compete even in an English plowing match. I have seldom seen furrows cut more straightly, or more evenly. One or two of the best, were Scotch and Irish, who had learned their trade regularly in the old country. Probably there is no department in our practical agricultural operations, where a greater improvement has been made of late years, than in that which relates to plows and plowing. The construction of the implement, and its proper use, have alike been made special subjects for study and experiment. Plowing matches, in connection with the agricultural fairs, have contributed in a striking manner to this result, and it serves to show how much we may do in other directions, if we will make a corresponding effort.

Notwithstanding a heavy rain, my address was attended by a very crowded audience. The room was densely packed, and quite a number were unable to obtain even standing room within the doors. The subject was, "the necessity of a special education for the farmer," and my observations were received with the same fixed attention, and the same evident interest in the theme, that I had occasion to notice in all this region.

I mention this now, as connected with a few remarks upon the general state of things in these counties, which I design to make in closing this series of letters. With all the home prejudices and all the attachment to New England, of a thorough Yankee, I am constrained to observe, that there are *very few* counties in Connecticut, or even in Massachusetts, where such audiences could have been collected in such weather, and scarcely one where I could have carried my hearers with me so completely. I say nothing of Vermont, New Hampshire, Maine, or Rhode Island, but have no reason to suppose that these States are in advance of the others. So far as my experience goes, the conviction that science can do much for agriculture, and the disposition to learn from scientific men, does not seem by any means so widely diffused in New England, as in many portions of Western New-York. Yet if they were but aware of the fact, the Yankee farmers need instruction sadly in many points. One of the things most to be sought is, to overcome that prejudiced attachment to certain old courses, which the western man, owing to his location in a newer country, has never formed. There are thus greater encouragements to the advocates of scientific agriculture in attempting to influence a western than an eastern audience, as he knows that his hearers may be more readily brought to see advantage in something that has not been sanctioned by old usages.

In the New England States, and in the State of New York, may unquestionably be found the greater portion of our best farmed districts, and still there are in the farthest advanced of these, striking defects of management. The general fact often presents itself while traveling, and surveying farms, that in the actual cultivation and management of the soil itself, the farmers have not as a class attained that proficiency which they exhibit in the other departments of their practical business. Improved animals have been largely introduced, and we are yearly importing the best sheep, the best cattle, the best horses, and the best swine, that the world can afford, thus constantly contributing to elevate the character of our stock. In the character of our implements, the past few years have witnessed a most astonishing change; the old awkward tools have been made light, efficient, and cheap, in a degree that would formerly have been thought almost incredible; while busy invention has been constantly employed in contriving such simple and yet effective machinery, that almost every operation can be far more easily and more economically performed than ever before. In the construction of farm buildings, of farm fences and in the feeding of stock, an increasing and judicious expenditure of capital is to be observed. In most of these respects, I do not hesitate to say that we have advanced in a manner worthy of our own great country, in a manner that no farming community has ever surpassed, if ever equaled.

Now I would ask any man of observation, has the soil during this period of rapid progress elsewhere, been improving in a corresponding degree. There are many single farms scattered about the country, where such a corresponding improvement is to be found; there are also a few districts that can be cited as honorable exceptions, but of many others, the most that can be said is, that the quality of the land has remained nearly unchanged. Of the greater number of farms, my own opionion is, that the change has been for the worse; that there are numerous townships in New-York and New England, where the land produces less per acre than it did ten years ago. The reports of many reliable practical men bear me out in such a conclusion, and any reader who doubts my correctness will, I venture to say, be soon satisfied if he institutes a strict inquiry in his own county or State.

It is obvious then, that if these remarks are correct, the land itself has not been so much the subject of improvement as the stock which it supports, or the implements which are to till it; that in short, it is not at present, as I said at first, generally so good, as are our animals and our tools. We often see this exemplified, by the presence of fine cattle, sheep, or horses, on farms that are constantly growing poorer and poorer, as to their productive power.

This seems to me like beginning, in part at least, at the wrong end; I would be the last one to discourage the improvement of our stock, but think that the soil should be brought up at the same time.

The necessity of this I wish to impress with especial earnestness upon the farmers of the West, where the land is still for the most part fertile, and in no case exhibits the utter exhaustion which may often be seen at the East. The western farmer should consider that he has not only to better his stock and implements, but that he has also, as an equally important duty, to keep his land up, and even improving; if it has already begun to fail, let him turn his attention above all things else, to restoring its productiveness. The land is the foundation of the farmer's prosperity; if that is fertile, and kept in good order, all the other requisites of profit and of good farming, will naturally follow.

If the farmers of the west will be warned in time, if they will pursue the course which even a trifling amount of study will make plain, they will never find themselves called upon to engage in that slow and toilsome process of renovation, which has become so necessary in the older States.

In the counties which I have visited, and which have furnished the subjects of the three foregoing letters, nature has provided exhaustless supplies for restoring and improving the soil; in the hollows and swamps, lie deposits of muck and marl, which will one day be more valuable than gold mines in their effect upon the true prosperity of that region. A vast part of the richest land is lying idle from the mere presence of water, and it was a source of satisfaction to me, that the present race of exhausting farmers, too many of whom yet remain, there, do not know enough to touch it. They look upon it with contempt, and will leave it for their more skilful successors to subdue and cultivate; these will not only do this, but will find enough surplus material to enrich the worn out uplands to which their predecessors have confined themselves. I might continue upon this topic with interest to myself, and as I think with advantage to your readers, but lest they should disagree with me in this latter opinion, will turn to some other subject in my next letter. Yours truly. John P. Norton.

DOMESTIC ECONOMY.

Washing Fluid.

Eds. Cultivator—Take one pint alcohol, one pint spirits turpentine, two ounces ammonia, (hartshorn,) one ounce camphor gum; mix all together, and bottle—cork tight—shake before using.

Directions for using.—For every five gallons of water, about milk-warm, add one pint of soft soap; then put in three table spoonfuls of the preparation. Soak the white clothes thirty minutes; then rinse or wring them out, rubbing them where the most dirt appears. Then put them into clear, cold water, without soap, and boil thirty minutes, and rinse them in clear cold water. The same preparation will answer for colored flannels and calicoes. Soak them thirty minutes, rub and wring them out. Then pass them through the water in which the white clothes were boiled, which will cleanse them sufficiently for rinsing.

This is a method which has been practiced in my family for some months, and I think it superior to any other I have known. It makes a great saving of time and labor. Julia E. Hanchet. *West Stockholm, N. Y.*

Pine-Apple Cheese.

A summary of the mode of making this cheese, as practiced by Mr. Robert Norton, of Rushford, Allegany county, N. Y., is given in the journal of the N. Y. State Ag. Society, from which we take the following. It appears that Mr. N. is from Goshen, Ct., and he is probably a relative of Mr. Lewis M. Norton, of that place, who was the first manufacturer of pine-apple cheese in this country. The particulars of his mode were given in our volume for 1845, page 283.

"His curd is kept until its age brings it into the same chemical state that is produced by a thorough scald; after which it is cut into pieces one inch long and three-eighths of an inch square, by a machine which works up 20 lbs per minute; after this it is warmed by water to 90°, and salted at the rate of 1 lb of salt to 50 lbs of curd. The pine-apple cheeses are at first pressed smooth with a neck projecting from the lower end, to which the pressure is applied. The impression is made by a net, which is stretched on by a screw, after softening the cheese in hot water. This toughens the rind and insures the cheese a safe arrival after a long voyage. The Norton cheese is in very great demand by California shippers. The shipping cheeses weigh about 10 lbs. each, and are pressed in tin hoops, in perpendicular columns, containing nine cheeses each."

Recipes for using Indian Corn Meal.

We take the following from a phamphlet published by the Atlantic Dock Mills Company, Brooklyn, N. Y., in relation to Stafford's process for drying Indian corn, and the various modes of preparing it for food. Mr. Stafford, it will be remembered, is the inventor of a valuable process for drying grain by steam, several notices of which have been giving in previous numbers of our journal. The company above mentioned now use Mr. S.'s process in preparing their articles:

Plain Baked Pudding.—One pint of corn flour, one quart milk, half a pint molasses, a teaspoonful of salt. Mix together cold, in the dish in which it is to be baked. Set it in the oven, and stir occasionally until it begins to cook. Bake an hour and a half. Eat hot with butter or sauce.

Egg Pone.—Three eggs, a quart of corn flour, a large tablespoonful of fresh butter, a small teaspoonful of salt, a half pint (or more) of milk. Beat the eggs very light, and mix them with the milk. Then stir in, gradually, the corn flour; adding the salt and butter. It must not be a batter, but a soft dough, just thick enough to be stirred well with a spoon. If too thin, add more corn flour; if too stiff, thin it with a little more milk. Beat or stir it *long and hard.* Butter a tin or iron pan. Put the mixture into it; and set the pan immediately into an oven, which must be moderately hot at first, and the heat increased afterward. A Dutch oven is best for this purpose. It should bake an hour and a half or two hours, in proportion to its thickness. Send it to table hot, and cut into slices. Eat it with butter, or molasses.

Griddle Cakes.—The following is called "Masters' Recipe," and it will be found one of the best, if not the master receipt, for making griddle cakes.

One and a half cups of corn flour, scald with boiling water, one pint milk, one cup of wheat flour, three eggs. Stir in the yolks; beat the whites to a stiff paste before mixing. One teaspoonful of carbonate of soda, and salt to suit the taste.

◆

Making Candles.—Experience of Mrs. T———, of Ohio. Prepare small wicks of the best wick yarn, and, after being prepared, completely saturate them in clear spirits of turpentine; then dry them thoroughly, before the tallow is applied. Candles made in this way will burn much clearer and last much longer than without the spirits of turpentine.

◆

How to Make a Good Cup of Tea.—M. Soyer recommends that, before pouring in any water, the teapot, with the tea in it, shall be placed in the oven till hot, or heated by means of a spirit lamp, or in front of the fire (not too close, of course,) and the pot then filled with boiling water. The result, he says, will be, in about a minute, a most delicious cup of tea, much superior to that drawn in the ordinary way.

◆

Poisons.—Vessels of copper often given rise to poisoning. Though the metal undergoes but little change in a dry atmosphere, it is rusted if moisture be present, and its surface becomes covered with a green substance—carbonate or the protoxide of copper, a poisonous compound. It has sometimes happened, that a mother has, for want of knowledge, poisoned her family. Sourkrout, when permitted to stand some time in a copper vessel, has produced death in a few hours. Cooks sometimes permit pickles to remain in copper vessels, that they may aquire a rich green color, which they do by absorbing poison. Families have often been thrown into disease by eating such dainties, and may have died, in some instances, without suspecting the cause.—Dr. Thompson.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Items in Fruit Culture.

Trimming Down Lists.—Thomas Rivers, the celebrated English nursyman, has fruited about one thousand varieties of the pear, and out of this great assemblage has selected only *four* for raising extensively for market on his own grounds, viz: *Bartlett*, *Beurre d'Amalis*, *Capiaumont*, and *Louise Bonne of Jersey*. In this country, the Bartlett and Louise Bonne of Jersey, are not excelled for the same purpose; the other two might be profitably superseded, as they are not of first quality here.

Early Joe Apple.—So very agreeable to the taste is this new delicious summer fruit, that we have heard Jonathan Buel of East Bloomfield, N. Y., who has long cultivated it, remark that he had seen a man eat a half peck of them at one time, by taking up one after another, before he was aware of the quantity he had consumed.

Shortening-in the Peach.—We lately witnessed an interesting example of this operation performed by the frosts of winter. A tree of the Early Anne, planted about ten years ago, stood in so frosty a locality, that about one-half of each of its annual shoots were destroyed by frost every winter, this variety being more tender than most sorts. The consequence was that this tree was kept in a comparatively neat and compact form, with the bearing shoots quite evenly distributed throughout the head. Other sorts more hardy, standing side by side, and which had not been subjected to this natural shortening-in, had extended their principal branches into long and naked arms, with the fruit-bearing portions at their extremities only.

Grafting Wedges.—In cleft-grafting, as every grafter knows, a good iron or steel wedge is wanted, to keep the slit open till the graft is inserted, and accurately adjusted. One of the largest sized cut-nails or cut-spikes, ground to a wedge upon a grindstone, has been found one of the cheapest and most convenient for this purpose, the head of the nail serving a good purpose in withdrawing the wedge.

Recovering Dried Grafts.—It often happens that grafts of particular fruits are received in a dried or withered condition from being badly packed; and being supposed to be worthless, are thrown away. The writer once received in autum a small package of a new and rare sort of apple, from a distance of some hundreds of miles, without any protection at all, and they were quite thoroughly *seasoned*. They were encased in moss, and buried a few inches beneath the surface of the earth on a dry spot of ground. By spring they had gradually imbibed moisture, and had become plump again, and on being set, every graft grew. Efforts of this kind often fail in consequence of applying the moisture too copiously and suddenly. Shoots in so withered a condition should receive it so gradually as to require some weeks at least for the completion of the process.

Short Lists.—Samuel Walker, President of the Massachusetts Horticultural Society, says that if he were confined to only one sort of *pear*, he would choose the *Vicar of Winkfield*, from its free growth, productiveness, fair and large fruit, and long continuance. F. R. Elliott, of Cleveland, says that were he to choose but one variety of the *apple*, he should take the *Belmont*. Robert Manning of Salem, Mass., gives as the three best pears, the Bartlett, Autumn Paradise, and Winter Nelis; and B. V. French, of Braintree, Mass., regards as the three most desirable apples, the Porter, Rhode Island Greening, and Baldwin.

How long will Buds Keep?—This inquiry is often made, how long will scions for budding keep with safety, and to what distance may they be sent? The answer must vary exceedingly with circumstances. If the growth is green and succulent, and the buds have not become matured, they are sometimes sensibly injured by being kept two or three days only; while on the other hand, if the wood is well ripened, and the buds plump and hardened, they may keep several weeks without injury. In some instances we have received buds from a distance late in summer, and being well matured we have kept a part over till spring, and set them as grafts with success.

Influence of Graft on Stock.—Dr. Kirtland says "A graft of the Newtown Pippin will invariably render the bark of the stock rough and black, (the habit of the variety,) within three years after its insertion." Nurserymen, who by digging up trees, become familiar with the growth of the roots, often notice that certain sorts always have certain peculiarities, on stocks of whatever sorts. For instance, the Yellow Bellflower always has fine, fibrous, horizontal roots; the Gravenstein has large, strong, descending roots; the Yellow Spanish Cherry is remarkable for its large heavy roots, whatever the stock may be.

Long Lists—Gooseberries.—The catalogue of the London Horticultural Society enumerates 149 sorts of the Gooseberry regarded as worthy of notice; and Lindley gives a list of more than 700 prize sorts. A selection of probably one dozen might be made from these, which would embrace all that is desirable, the others either very closely resembling them, or else being inferior in quality.

Dwarf Fruit Trees.—It may be questioned whether a very extensive introduction of dwarf trees will succeed so well in this country as some anticipate, until those generally who plant trees, learn to give them better cultivation than they now commonly receive, dwarfs indispensibly requiring good treatment. And yet they may prove better adapted to some soils than trees on common stock. Dwarf pears have in various instances withstood the severity of winter, or made fine growth, in localities where trees on pear stocks have perished or not flourished. Lindley found that in the chalky soil at Rouen, the cherry on cherry stock was languid and sickly, while it was healthy and vigorous on the Mahaleb stocks. Would not this stock be worthy of trial in those portions of the western States where the cherry has proved so difficult of culture?

Shortening-back in Transplanting.—The Horticulturist states that an orchardist on the Hudson tried an experiment by planting out 78 peach trees of large size, three years growth from the bud. One half were headed back so as to reduce the buds one-half; the rest were unpruned. The season was dry, and *twelve* of the 39 unpruned trees, perished, and only *one* of those that were headed back. This one would probably have survived, had three-fourths instead of one-half the buds been removed.

Mulching.—A correspondent of the Horticulturist mulched 50 trees out of 150, all of which had commenced growth alike. Those which were mulched all lived. Of the hundred not mulched, fifteen perished. The weather was hot and dry at midsummer.

Mania for New Productions.—A new fruit or flower of great merit may be profitably bought by a nurseryman at an apparently extravagant price, for extensive propagation and dissemination among the public. Hence fifty dollars for a small tree of the Stanwick nectarine, or five dollars for a plant of the Diana grape as long as one's finger, may not be wild. The purchaser of Wilder's two splendid new Camelias, at 500 dollars each made a large profit, by selling the increase at less than a tenth to other nurserymen. But there are many new and worthless things also offered at high prices to the public, and some knowledge is needed to discriminate. We laugh at the famous Tulip Mania which prevailed in Holland a century ago, when single roots sold for 2000 to 5000 florins, and which, as E. D. Mansfield remarked, in his address before the Cincinnati Horticultural Society, "was nearly as strong as the Lind Mania now in New-York;" and yet a very large portion of the horticultural public in these States are almost continually and as thoroughly deceived, though on a smaller scale—a long list of these impositions might be given. The remedies are, an increase of general information, and caution.

Fruits changed by Climate.—No deterioration of fruits appears to have been greater than in American peaches, taken to England. Of fifty sorts, from the middle and western States, tested at the great Chiswick garden, all but two were pronounced "worthless."

◆

Brief Hints for the Season.

There are a few cultivators of fruit, scattered through the country, who excel all their neighbors in the success which always attends their labors. Every thing they set out, grows and everything that grows, advances with vigor and health. There seems to be a sort of *good luck* attending all that their hands touch. Now, it happens that their good luck is the fruit of diligence—their success is the result of labor—real, hard-handed, well applied labor. When a tree is transplanted, every part of the work is done well, nothing is slighted; the soil into which it is set is well and deeply enriched; and, most of all, their trees are not neglected afterwards, but constant, clean, and enriching cultivation, keep sup what is well begun.

Now we have noticed that one great reason why all this essential labor is slightly and badly performed by the unsuccessful cultivator, is that he crowds too much into a small portion of time. He undertakes to do in one day that which would require a week to perform properly; and he omits some essential preparations till the moment arrives when it is too late to perform them. During the present period there are a number of important particulars which if now attended to, would lessen the pressure of business when spring opens, and contribute greatly to success.

If trees are to be set out, a good quantity of the necessary enriching materials are to be procured and deposited where wanted; the place for each tree may be marked, and old manure, or still better, a good compost, deposited in heaps in sufficient quantity. We have known apple trees to thrive admirably, by first digging large holes, say seven feet across, and then mixing well by means of an iron rake a quarter part of old rich manure with the soil as it was returned to the hole—leaving enough space at the center to place the roots without bringing them into actual contact with the manure. Trees so treated, with good subsequent care, have borne a bushel each the fifth year.

A most excellent manure for fruit trees, whether newly transplanted or otherwise, consists of about two-thirds swamp muck, and one third of stable manure, with a small portion of ashes, leached or otherwise. As this requires some time for working over, the materials should be timely collected; and in some instances it may be done now to advantage.

Trees which are of feeble growth have been immediately restored to vigor by spreading a thick coating of old manure (or new, if old could not be had) in a broad circular space round the tree, during winter, with a portion of old ashes, and then spading in early in spring. The spading should be *as deep as practicable,* without injuring the roots. Three or four inches of manure, for apple, pears, and peaches, where the soil was poor, have been of great use. The quantity of ashes should be just enough to cover the surface, say the tenth of an inch thick, which will be about a bushel or two for a large tree, and a half peck to a peck for a small tree.

In top-dressing and spading in manure, one point must be well remembered. The roots spread out from the tree far and wide, generally much further than the length of the trunk and branches put together, and the manure should be spread as far as the roots extend; it will do but little good to confine the application to a small circle just round the foot of the trunk, as too many do, where a tenth part of the roots cannot procure a supply.

Very extensive experience within a few years has proved the eminent advantages of *mulching* young fruit trees. which is commonly done during the early part or middle of summer as the drouth of the season may require. But it is often neglected, or if not neglected, is very sparingly executed, simply for the reason that the material is not to be had at the time wanted. Every cultivator, therefore, who intends to set out or already has, small trees, should if possible reserve or procure in time a copious supply of coarse litter, sufficient to form a dressing around every tree, at least half a foot thick. Much is often thrown aside or wasted in winter, which would be exactly suited for this purpose.

A constant improvement of his selection is an important object with every cultivator of the best fruit. Some new varieties prove worthy of adoption, and a greater number of old ones are found by trial to be particularly suited to certain localities and unfitted for others. Hence, some change of his trees by re-grafting must be be going on in every good cultivator's orchard and garden. The kinds must be sought and grafts procured in winter, and not left till spring when the work would be more likely to be omitted altogether.

There are a number of operations either necessarily to be performed now, or which may be done to great advantage in order to lessen the pressure of spring labors, among which may be enumerated the following: Pruning orchards; shortening-in peach trees; pruning har-hardy grapes; clearing off the caterpillar eggs from the small shoots of apple and other trees; making labels for marking trees, and thus preventing mistakes in names; and making the various fixtures for gardening purposes, as figured and described in the first number of last year's Cultivator.

◆

Hovey's Magazine.

We copy from a late number of Hovey's Magazine, the following interesting scraps, which will doubtless prove acceptable to our readers as well as exhibit the value of this pioneer journal of horticulture, now in its sixteenth year:—

Large Nectarines.—Under the pomological head it is stated that a basket of the *Lewis Nectarine* was exhibited at the Hall of the Massachusetts Horticultural Society, from the grounds of S. H. Perkins of Brook line, the *average* size of which was about *eight inches* in circumference. A few were about nine inches, or as large as an Early Crawford peach.

McLaughlin Plum.—This new variety which originated in Maine, and which has already been very highly commended, bore on the grounds of the editor the past season. He states it to be "the only variety which can claim an equality with the Green Gage," and adds, "we shall be much mistaken if it does not become one of the most popular of all plums." In form, color, and quality, it much resembles the genuine Green Gage, but is much larger in size.

The "Rough and Ready" Apple.—This is a fine, pleasant and refreshing, but not rich summer apple, of a greenish yellow color, beginning to ripen soon after the Early Harvest, and continuing for several weeks. It has already been described as a new variety under the above name in the Genesee Farmer. It has been cultivated in Ontario and some other counties of westen New York, to some extent, for the past twenty or thirty years. It would be desirable to know its origin and original name, as the one here given is not pomological, neither is it appropriate, the fruit being remarkably *smooth*.

Salt for the Curculio.—A communication from C. Goodrich of Burlington Vt. gives the following experiments:—Flower pots were filled with garden soil, on which a layer of fine salt, a quarter of an inch thick was deposited. On this bed of salt were laid punctured plums containing eggs of the curculio. The grubs came out of the plums, passed down through the salt into the soil, from which perfect curculios emerged some weeks afterwards. The same result took place when fresh air-slacked lime was substituted for salt, and where soil alone was used. The pots being exposed to the weather, the salt was soon washed into the soil, but there was no difference in the appearance of all the insects.

Bearing Trees for sale at Nurseries.—The following passage occurs in a description of Hovey's nursery, in the notes of an English traveller:—"I was not aware that the method of Mr. Rivers was adopted in this country, which I find is the case here, viz: that of keeping fruit trees, especially pears, in a prepared state, fit for removal at almost any age, with a certainty of bearing a crop of fruit the same season. This is effected by lifting the trees every fall, by which they form a large mass of fibrous roots close to the stem, and they may be carried to any distance, with the sure prospect of bearing fruit the following season, if planted in the autumn. I believe this is the only nursery in America where this method is practiced. But in my opinion it is as profitless a method here as in England—from the same cause—that few gentlemen fully consider the value of a few years gained in their life-time, which is the case by planting a handsome established tree in the fall, and gathering a crop the following summer. But such trees cost more money, "aye, there's the rub." They will rather buy trees one year from the bud, at a low rate, than pay two or three dollars each for trees in a fruit-bearing state. These remarks are not directed to those planting *orchards*, but to those with small grounds and large means.

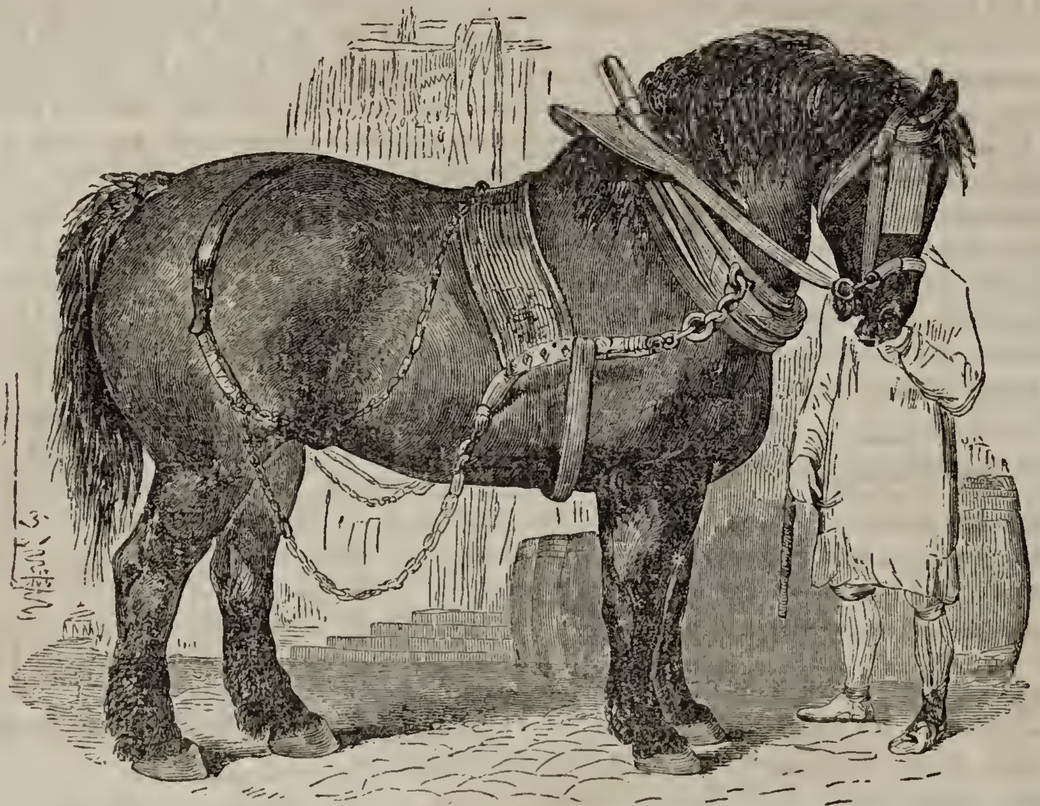
◆

Canker or Decay.

A correspondent at Abingdon, Md., writes as follows: "I have near my house some forest trees, which have been barked; and where so injured, are decaying. Wishing to save them, I looked up information on the subject, and found in Forsyth the following directions—for which he received a high premium from Parliament.

"Cut all the decayed parts, smooth the surface, and apply the following composition:—Take 1 bushel of fresh cow-dung, half a bushel of old lime, half a bushel of wood ashes, and a sixteenth of a bushel of sand—the last three articles to be first sifted: work and beat together till smooth—or by adding urine and soap suds, the mixture may be made liquid, so as to be applied with a brush. The mixture being smoothly applied over the wound, dredge on dry ashes, mixed with one-sixth part of the ashes of burnt bones—repeating the dredging every half hour, till all moisture is absorbed—rubbing with the hand till the plaster becomes a dry smooth surface. Will you please say whether you know anything of this method of averting decay? Would not anything that would exclude the air do as well as this mixture?"

The disease termed by English writers *canker*, a sort of gangrene of the bark and wood, does not appear to prevail to much extent here, and consequently we have not proved to much extent the efficacy of remedies. There is no doubt that the above mentioned treatment is one of the very best for anything of the kind which may be of such a nature as to extend or spread. But for *simple decay* caused by bruises, the *shellac solution* would undoubtedly be all that the case would require. We have seen old apple and pear trees, the trunks of which had contained considerable decayed portions, very successfully treated by merely cutting out those portions, and giving the freshly cut surfaces a good varnish of shellac. This varnish is made by simply dissolving gum shellac in alcohol, so as to be of the consistence of paint—keeping it in a large-mouthed bottle, well corked to prevent evaporation; and if the cork is made to form the handle of a brush, the brush being within the bottle, it is at all times ready for use.



THE ENGLISH DRAFT-HORSE.

English Draft-Horse.

The breeds of horses used in Britain for heavy draft, are the Lincolnshire, the Suffolk, and the Clydesdale. The largest of these is the Lincolnshire, of which the above cut is a representation. They are usually not less than seventeen hands high, and very heavy in proportion. The Clydesdale and Suffolk are of less bulk, but are more active. Although horses of such size are not required for ordinary purposes, in this country, it is, nevertheless, a fact that the introduction of the English draft-horse has been of considerable advantage in improving our stock. In many instances, a cross from this kind of horse has added greater strength, constitution, and an ability to perform more labor in proportion to the expense of keeping, than our stock had previously possessed. Many of our readers will recollect an English draft-horse called *Sampson*, imported several years since by Mr. SOTHAM. Some of the best and most powerful work-horses now owned in this vicinity, are the progeny of that horse. They are of compact form, short-jointed, very muscular, and have a rapid and easy walk. They are also hardy, and easily kept in condition. There is a similar stock of horses in Wayne county, N. Y., derived from a horse of the same name as the above, imported by Mr. ROBINSON, of Palmyra.

At the New-York State Fair at Buffalo, in 1848, a Clydesdale stallion was exhibited, from Toronto, Canada. He was a horse of remarkable activity, for one of so large a size. We are informed that his progeny are highly esteemed as farm-horses. YOUATT observes:—"The Clydesdale is a good kind of draft-horse, and particularly for farming business, and in a hilly country. It derives its name from the district on the Clyde in Scotland where it is principally bred. The Clydesdale is larger than the Suffolk, and has a better head, a longer neck, a lighter carcase and deeper [wider] legs; he is strong, hardy, pulling true, and rarely restive."

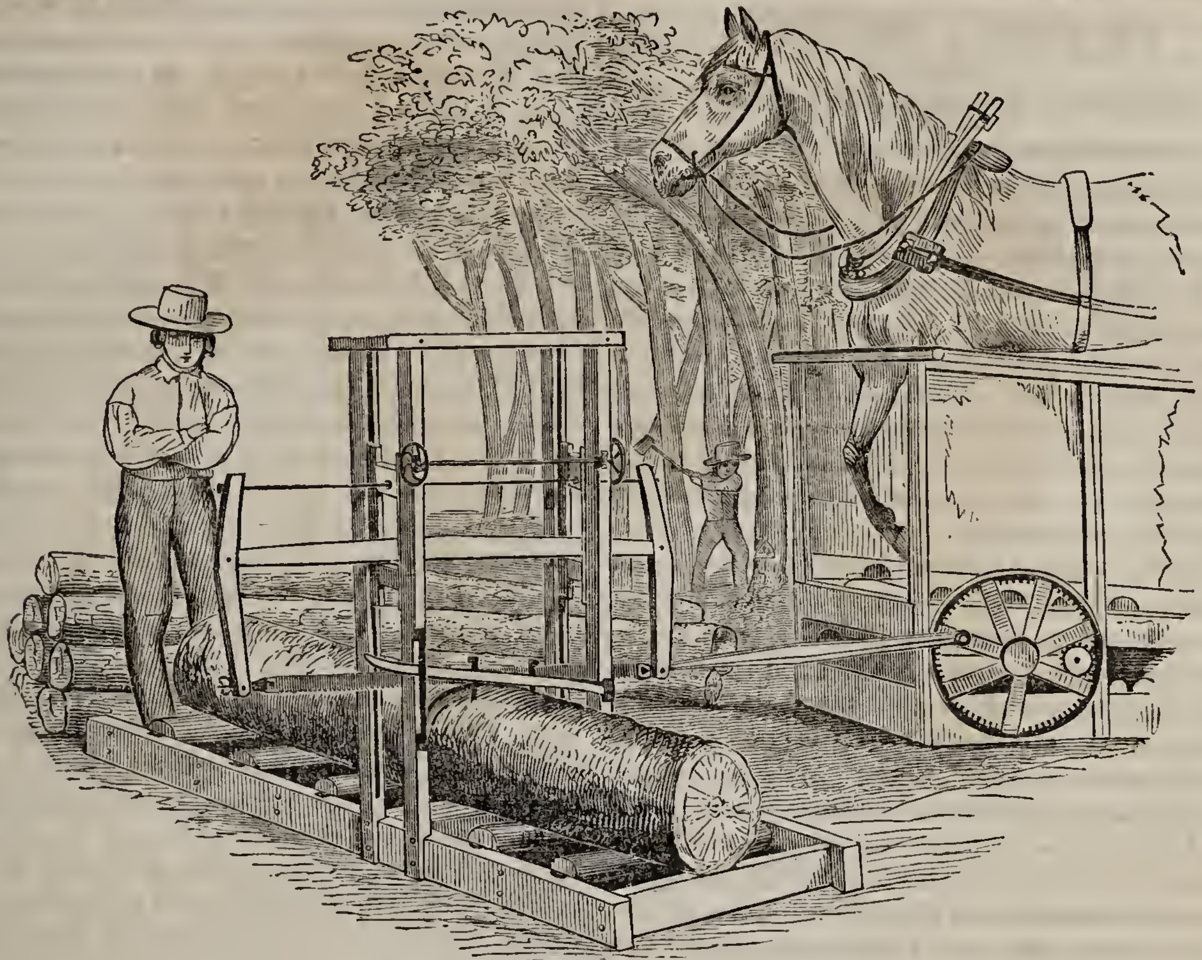
Low prefers the Clydesdale to the English draft-horse, chiefly on account of its activity. He says, "They step out more freely, and have a more useful action for ordinary labor. The long stride, characteristic of the breed, is partly the result of conformation, and partly of habit and training; but however produced, it adds greatly to the usefulness of the horse, both on the road and in the fields. No such loads are known to be drawn at the same pace, by any horses in the kingdom, as in the single-horse carts of carriers and others in the west of Scotland."

◆

ROBERT BAKEWELL, of Dishley, whose name stands immortalized as the founder of the New Leicester breed of sheep, commenced his career under great disadvantages: it was not on a sudden that he attained his high celebrity as a breeder. It is recorded of him that the first ram he let out he drove to Leicester fair, and obtained only *sixteen shillings* for the use of him for the season. About the year 1760 his rams did not sell for more than two or three guineas each; and for their hire he received from fifteen shillings to one guinea per head: he gradually advanced his prices, and in 1770 he let some of them for twenty-five guineas. It is said no one ever knew the method on which he made his crosses. His great object was to gain the greatest weight of meat upon the smallest quantity of bone, and to combine this with symmetry of form, early maturity, fine quality of flesh, and a great propensity to fatten. He said, "You may stick a patch on a sheep anywhere." He proceeded exactly on the same principle in his breed of sheep as cattle; viz: the fattening in the most valuable parts of the body, and on the least quantity of food.—*Eng. paper.*

◆

FEEDING.—Always be regular and systematic in feeding your stock. Regularity is the best balance wheel of Agricultural enterprise; derange this, and the machine "runs down." Stated hours and specified quantities—graduated according to circumstances, should invariably be observed. "Neither too little nor too much, too often nor too seldom," this is the true policy. The coarest fodder should be fed out in mid-winter. Animals have then sharp appetites, and will eat, what would be rejected at other times. In moderate weather, stock may be fed in yards.



CROSS-CUT SAW-MILL AND HORSE-POWER.

Cross-cut Saw-Mill and Horse-Power.

The above cut represents a simple and effective apparatus for sawing wood, cutting off logs, and cutting timber into various forms, by means of horse power. It is manufactured by Messrs. Emery & Co., of this city, and was exhibited by them at the last State fair. The arrangement is very simple, as it is only necessary to affix a strong wrist, or crank-pin in one of the arms of the large converge wheel, (as shown,) and attaching a connecting rod or pitman to the saw itself. or to a light frame, in which the saw is sometimes strained. If the saw is strained, it may be quite light—about three inches wide and five or six feet long. If it is not strained, it should be stout and strong, and six or eight inches wide, with teeth filed to cut with the drawing stroke, so as to avoid the liability of breaking the saw. The motion as given with the power above represented, (about sixty revolutions per minute,) is found sufficient without any extra gearing or expense.

Mr. P. B. Haven, of Sangerfield, N. Y., who has had one of these machines in use the past season, states that two men with a two-horse power, without any change of horses, can readily work up from ten to fourteen cords of hard wood, into lengths of eighteen inches, in a day, and that he has cut off a solid hard wood log, two feet through, in two minutes.

The ease and facility with which this apparatus can be made to perform what has heretofore been a laborious and tedious operation, is another economical application of the power of horses in lieu of manual labor, which deserves the attention of farmers in the lumbering districts, and all those who have wood and timber to be prepared for market or for use. The arrangement of the machinery is so simple, that it can be put together by any mechanic. The cost of a saw is about one dollar per foot in length; the cost of a one-horse power, which is sufficient for working the saw, is $80—that for a two-horse power which is better calculated for threshing, &c., is $110. The expense of the frame or rigging, will vary from five to twenty dollars—making the whole cost of the apparatus, for a one-horse power, from $90 to $105, and that for a two-horse power $120 to $135. For further particulars inquire of Messrs. Emery & Co., Agricultural Warehouse, Albany.

◆

Breeding Stock.—I seriously tell you that without judgment, without constant application, without great research into the proper characteristic traits of breed and formation of animals, we shall never come to anything satisfactory: I consider *character* the main link in the whole chain of breeding; for without character you have nothing to guide you. Then comes the *touch* or *handle*—this is very essential; and the color of a beast is not to be neglected—it must be in character according to their description. Now there are various kinds of beasts which uniformly support a character in themselves: and I may say the same of sheep. I am not disposed to flatter one breed or disparage another, for I really do think they are all useful in their separate localities.—*Lecture before an English Farmers' Club.*

◆

Composts.—Lime is a substance which it is an error to use with composts in which we have farm-yard manure. It is equally an error to mix lime with any compound rich in ammonia. The tendency of lime, in all composts, is to promote decomposition and to waste nitrogen, which escapes, by union with hydrogen under the form of ammonia, which is the very treasure of the dung heap, and of most other manuring substances.—*Morton's Practical Agriculture*

The Farmer's Note-Book.

Agricultural Reading---Wire Fence.

Eds. Cultivator—I became a subscriber for your paper one year ago, and as the time drew nigh when my subscription must be renewed, if I would take it the next year, I was led to reflect on the benefit it had been to me the past year. It did not, however, take much reflection to ascertain that I had never expended a dollar since I commenced farming, so much to my advantage and profit. The information I have acquired through the columns of the Cultivator, on but a single point, has been more than twenty dollars benefit to me, and from this you may naturally infer that I concluded to continue my subscription.

Agricultural reading is especially useful to the farmer in two ways: First, it informs him of what he does not know, and of many things, too, that it is quite important he should be familiar with. Second, it reminds him of what he does already know, but much of which, through neglect, carelesssness, inattention, or other causes, he is liable to forget.

The information which was of so much benefit to me, refered to above, was on the construction of wire fence. In consequence of the lateness of last spring, my fodder became quite exhausted, so that I found it necessary to divide an 18 acre field, that I might have a part of it for pasture, and the remainder for hay. For this purpose there had to be made a partition fence of about 52 rods, which for a common stake or worm fence would require about 800 rails, besides the stakes. This to me, was quite a consideration, as the timber, which is of a very indifferent quality, stands where it is rocky and steep, and to add to the difficulty, I could find no one that was willing to undertake the job of making the rails under such circumstances.

This was my situation when an article on the construction of wire fence appeared in the pages of "The Cultivator" by one of your correspondents, (I believe A. B.,) in which that kind of fence was much commended, with instructions on the construction of it, cost, &c. I was then just in the mood to fall in with something of the kind, in order to evade the expense and labor of a rail fence. I soon concluded to try the wire at all hazards. While some of my neighbors would dissuade me from it, others would laugh at the idea. They, however, did not feel the importance of having that field divided as I did, and so I went to work, and had the fence completed in a few days, and my horses and cattle put in to pasture, not by the way, without some misgivings, lest they might cross over the wires and save me the trouble of mowing the other part of the field. But this did not prove to be the case. They were confined on that side of the fence where first put, till after harvest, when they were turned in on the other for some weeks. I then opened a gap at one end of the wire fence, so that the beasts could go on either side of it at pleasure. This gap I have shut, by times, and pastured which field I wished to, and although our horses are in the habit of rubbing down stake fences, and getting out, and frequently did so the last summer, though the fences were good, yet with the exception of a few of the staples that fasten the wires being drawn out, the wire fence has sustained no other injury. This, however, is but the experience of one season in this kind of fence, and how long it will remain effectual, is yet to be told. I constructed the fence after the manner laid down by some of your correspondents—using wire No. 10, and fastening the strands to the posts by staples made of the wire. The posts should be large, and well set. A very expeditious way of marking the posts for the wires, is to have a strip of board the height of the posts above ground, with marks on it at the distances the wires are to be on the posts, and by standing it upright by the posts when set, they can be laid off with keel or chalk, by marking on the post opposite to every mark on the strip. In putting on the wire, after securing one end to the main posts at the end of the fence, let one person take the roll of wire and unwind it as he walks, while another following with staples and hammer in hand, should lay the wire to the marks on the posts, striking in the staples. In this way they proceed to the other end, when the wire should be drawn as tight by the hand as possible; then by attaching a strainer, which in operating may be laid against the outer face of the end post, where it can be turned so as to strain a wire of even 100 rods in length, so that its vibrations will compare in tone to the cord of a well tuned violin. When the wire is sufficiently tight, before attempting to fasten the end attached to the strainer to the post, let all the staples be now driven up firmly on the wire, when the strainer may be detached, or so slackened as to be shifted around the post without any danger of the wire slipping. All that is then necessary to secure the wire after it is bent around three squares of the post, is to drive a few of the staples down on it. The wire should be only partly annealed, as otherwise it is so liable to be frequently bent as to be troublesome in putting up, and is not so substantial when on the fence.

When the posts are set, and before putting on the wire, turn a furrow with the plow on each side, throwing it as close up to the posts as possible, and then by running another, and throwing it with a shovel between the other two, and in range with the posts, will make a ridge so high as to require one strand of wire less, and prevent the frost from reaching the bottom of the posts, and also put the fence in a better position for resisting any attempt by horses or cattle. to break through it. James H. Alexander. *Near Lewiston, Pa.*

Harvesting Machines.

Eds. Cultivator—Noticing a wish that some of your western correspondents would write you about harvesting machines, the following is submitted. There is now in the west about thirty different patents for harvesting and reaping machines. Some of them cut the grain close to the ground—others only cutting off the heads of the grain, with a few inches of straw. The first kind go, generally, under the head of reapers; the latter under the name of harvesters. Of the reapers, McCormick's is the most generally used of any known to me; while of the latter, Esterly's Harvester seems to take the lead.

McCormick's machine requires four horses to work it, one person to drive, one to rake off, and five persons to bind up the bundles. It cuts, in good grain, when well driven, about twelve acres a day, and if the grain stands up well, will cut it better and cleaner than it can be done with a cradle; if the grain is lodged or crinkled down, it does not do so good a business. It cuts by means of two knives or sickles, one of which is fast, and the other moves backwards and forwards over it. The grain is brought on the knives by means of revolving arms. You can hire the grain put into shocks in this neighborhood, with one of these machines, for $1,25 cts an acre, which is what it costs with a cradle; so that if a person has to hire it done with a machine, it is no cheaper than to do it with the cradle. These machines cost, I believe, $125. If a person has one of them himself, he can do it cheaper per acre than the price given here, while he is enabled to get his harvest done in a much shorter time, than if he depended on the cradle. Esterly's Harvesters cost $300. They require four horses on the machine, and two teams and wagons besides, to get the heads out of the way and stack them. They cut only the heads and six inches of straw, and the machine carries these into a wagon that drives along side of it. One wagon is filled while another is unloading. It requires six men to work them to advantage, and this force will cut and stack from 15 to 20 acres in a day, if the grain stands up well, and the machine is a good one. It is a valuable labor saving machine, where it is no object to save the straw.

The charge for this machine is $1,25 an acre for cutting and stacking. It is not worth as much to thrash the grain cut with these machines, as that which is cut with the others, or with the cradle. There being nothing but the heads to thrash, they run through the machine much faster than when there is a quantity of straw attached to them.

These machines are well adapted to our smooth, level prairies, and by means of them a farmer is enabled to get through a large harvest in a much quicker time than he could without them; and where he owns the machine, at a less expense. Here, labor in the harvest season, is scarce and high, and consequently these machines, which substitute the labor of horses for that of men, are in demand. Townsend Green. *Waupun, Fond Du La County, Wisconsin.*

Intense Freezing.

At 32° of Fahrenheit, water freezes; but the ice which forms even when the temperature is 20° lower, is unfit to be sent to a warm climate. A gentleman who had much experience with ice, said: "I want mine to be sawed out, taken up, and exposed for a night or two when the mercury is at zero, before it is packed away." Why? Because by this exposure, it becomes many degrees colder and will bear many degrees more of heat before it melts.

Housewives after dressing their poultry, freeze them, and pack them in snow, but too often without considering whether the meat is all frozen hard as a brick, or only hardened a little on the outside. Neither do they always consider whether the snow is as cold as it can be; for though snow is snow, and nothing else, yet it may be intensely cold, or only cold enough to keep from melting—a difference in temperature of 30° or 40°. The first condition may be found of a keen, cold morning, and the latter condition of a pleasant winter's afternoon. The old saying, to make hay while the sun shines, is not more appropriate than to pack poultry when it is intensely cold, so that it may bear a January, or even a February thaw. X.

Preparation of Bones for Manure.

A great obstacle to the use of bones as manure, in this country, has heretofore been the expense of preparing them. The modes usually adopted, have been to crush them in mills designed for the purpose, or to mix them with sulphuric acid. Latterly the process of pulverizing by steam has been resorted to in Britain, and where large quantities are to be prepared, this plan may be more economical than either of the others named. But we cannot see why bones may not be more cheaply pulverized by *fermentation*. In a fresh state, they contain a large per centage of nitrogen, which under favorable circumstances, causes them to undergo a strong fermentation. We have known a few instances of their being mixed with unleached wood-ashes, in a heap, with a covering of muck to absorb the gases which might be evolved: the mass soon began to heat, and by being turned over a few times, the bones became sufficiently reduced for use as manure. A writer in the *North British Agriculturist* gives an account of a mode adopted by him for reducing bones which is worthy of of notice. He says:—

> "A quantity of bones, in a crushed state, was mixed with an equal bulk of common sand, and well watered; the whole was then covered over with a coating of coal ashes, about 6 inches thick; this was done to prevent as much as possible the escape of ammonia. In a few days after I found, however, that the moistened bones began to generate intense heat, which soon brought on putrefaction. The size of the heap next showed to have lessened considerably, and on being examined into the bones were found to have disappeared, save a small portion of the outside; even these were corroded from the effects produced by internal decomposition. In fine, the appearance of the heap was changed to a blue mouldy, gelatinous substance, which, if touched with the back of a spade, or even rubbed between the hands, could be reduced to a fine powdery texture."

Agricultural Papers.

Eds. Cultivator—It is a fact that cannot be disputed and that no person of ordinary observation will attempt to dispute, that in districts where agricultural papers have the widest circulation, the inhabitants, as a general thing, are the most intelligent, and their farms give unmistakable evidence of the greatest productiveness.

The above sentiment has received a full confirmation in our minds by a late visit to a respectable farmer who "began the world" in the capacity of a hired man to "a very good farmer of those days." His history from that time would, if permitted to be fairly written, read thus: From the day that he entered into the service of his employer, until his contract was ended, he was devoted to his interests from whom he expected the reward of labor. Of course, he was none of those laborers who, like too many of the present day, work well while their employer does, and who, if he is called away, conclude they "won't fret,"—night and their wages will come just as well if they take it easy. Business was safe and progressive with him at all times, and under all circumstances; of course, he always would command a good place and goods wages. If the times were hard, he had employment and the reward, which the exigencies of the times, whether "good or bad," would bring.

In due time he purchased a piece of land, to the cultivation of which he directed his energies, and after a while another and yet another accession was made to his territory, until his domain became as ample as reasonable desires could demand.

When JUDGE BUEL started "THE CULTIVATOR, *to improve the mind and the soil*," a service it has never ceased to perform, agricultural papers were not so common as they are now. They were comparatively few in number and limited in circulation. Consequently agricultural reading was not found at every fire-side. As these papers sprung forth, however, too many looked upon them as "strange innovations" and "sad humbuggery," something that "fellows wrote that could write, but that they did *not know nothing about*." The farmer under consideration, was not of this class however, for he saw that there was much to learn, in the management of the farm as well as in other professions, to insure the highest success, and if this knowledge came to him in print it furnished no particular objection in his mind to its utility. He of course became a subscriber to number one volume one of Buel's Cultivator, and if any of the readers of this paper or the doubters of the benefit of agricultural papers would visit him now, they would find all the volumes of the work, up to 1851, in his library. They would also, as they looked upon his fields of successful labor and upon his convenient and tasteful barns, his large flocks and antic herds, scattered over the hills around him, hear him quote this work, as the source from which he had gathered such and such information upon the various subjects on which it treats, and the benefits derived threfrom. Nor have his labors ended here. He has induced many others, by telling them through his improved system of farming, as well as orally, of the value of the work, to become subscribers for it, and thereby rendered them an essential service.

Now, when a hue and cry is raised, as it sometimes is, even in this progressive day, against agricultural papers and agricultural knowledge, acquired from books, who shall we believe? Shall it be men like this, born and brought up farmers, and who yet, in spite of all the experience that labor and personal observation can bring, call for more knowledge at the same fountain for long successive years, so well satisfied with the present amount it issues, as to rely upon the same source for more? Men who go on profiting by what they read, as this farmer says he has done, and as his neighbors give assurance of doing by entering upon the same path he is pursuing? Or shall it be those restless, unsatisfied spirits, who never read, unless it be some newspaper story invented to add folly to the nonsense of fools, and who look upon all improvements as useless innovations, satisfied by doing as their fathers did, with out one-half the prospect, through the failure in the soil from the skinning system, of success? Which man, we say, shall we believe, for when two so great opposites are found, one must approach much nearer to the right than the other? We have no misgiving, when we say, that the voice of the people will come up in favor of the man who has taken for a long course of years the agricultural paper. Admitting the fact, there is no question of their general utility, for if they are a benefit to one farmer, they *may become* so to *every one*. Hence the inference is that every farmer should take and read at least one agricultural paper, such a one as is purely and wholly devoted to the subject, and can be conveniently kept in preservation.

Now that not one-half—probably not one-tenth of the farmers take such a publication, even in districts where they are most accessible, we believe no one will doubt. If they do, the post-office will probably teach them their error. But who shall stir up the people *to their own interest* by urging them up to the work? Publishers and editors cannot do it, for we expect them to be devoting their energies to make the paper as good as possible, therefore they have enough to do. Traveling agents cannot do it effectually, for they are most of the time passing in regions where they are unknown, and so numerous are agents and the characters of the papers for which they operate, that many look upon the whole mass with suspicion, and get rid of them with a frown and a *no* as soon as possible.

The work, then, of getting up these subscribers and extending the progress of truth and improvement, must fall upon individuals in their several towns and neighborhoods. It is not a hard service. Men often meet in their daily operations and as often speak of the successes and disappointments in their ordinary business. How natural at such times to tell of the knowledge gained, and where it was found, and call the attention of others to the particular source. In this way the circulation of agricultural papers may be greatly increased and the cause they advocate receive many a new and successful impulse. WM. BACON. *Richmond, Mass., Dec. 28.*

Pitching Hay by Horse-power.

EDS. CULTIVATOR—I have used a horse pitchfork similar to that represented by a correspondent of the Cultivator for 1848, page 122. It operates as well as there recommended. My object in referring to it here, is to furnish occasion to add, that I have not only succeeded as well as I expected in the barn, but also in pitching on stacks. My method of arranging the machinery for pitching on stacks, is as follows:—

I procured three poles, and chained the small ends together in a proper manner, and raised them in the form of shears, (with a pully suspended at the top,) over the spot where I wanted the stack. The rope to which the fork is attached, is put over the pully before the poles are raised; then under another pully, in the butt-end of one of the poles, about two feet from the ground. A stake is then driven into the ground at the foot of this pole, to prevent it from being pulled out. Hitch a horse to the rope, and all is ready.

Two of the poles should be about 33 feet long, and the other 39 feet. The object in having one poll longer than the others is this: When the fork is stuck in the load, and the horse is pulling on the rope, the poles are likely to be pulled towards the load, if they are of equal length; but if one pole is a few feet longer than the others, the load can be driven between the stack and the long pole, and the pole acting as a brace, will make it impossible to pull the three over by pitching. The poles should be as small as can be had of sufficient length, and of some light timber. Mine aro bass-wood, about five inches in diameter at the but. One man can handle them, one at a time, and two men can raise them. P. P. P. *Sylvania, Bradford Co. Pa.*

The Olk Gifford Morgan.

Eds. Cultivator—The friends of this fine horse, the purest blooded stallion of the present generation of the noble Morgans, will have noticed with regret the account of his death, which occurred at this place on the 30th of October last, from inflammation of the intestines. He was 24 years old, but to the last retained and exhibited that graceful form, and splendidly energetic and powerful action for which he was so justly and so widely celebrated. At the request of many gentlemen, he was ridden to the place of the recent sale of the Stickney stock, in the neighboring town of Westminister, Vt., and the distinguished breeders from so many of the northern and middle states, who were there assembled, will well recollect the admiring ecomiums which were there bestowed on him on account of his youthful appearance, and unfailing spirit. He was owned at the time of his death by the same company of twenty gentlemen, by whom he was purchased for $2000, in the fall of 1847.

It is gratifying to know that measures were seasonably taken to secure in the greatest purity, the invaluable qualities of this stock, in which many of the fastest trotting Morgan horses of the present day are to be found, by obtaining, without regard to trouble or expense, the highest blooded Morgan mares which were existing. From these mares and the Gifford Morgan, stock of as high blood as his own, has been bred, and is now owned here. From this stock the Morgan horses will continue to be propagated.

I find it necessary again to remind gentlemen, who are desirous of providing themselves with the true Morgan stock for the purposes of breeding, of the need of using the greatest circumspection to secure themselves against the designs of those unscrupulous persons who are aiming to palm off their horses as genuine, under color of fictitious pedigrees. Frederick A. Wier. *Walpole, N. H., Dec.* 16, 1850.

Notes for the Season.

The early part of December 1850, was remarkable for mildness. The first snow of the month, fell on the 6th upon mud, to the depth of one inch. On the night of the 6th, hail fell about three inches; but in consequence of the wetness of the earth, it melted so that only about one inch remained. On the night of the 7th rain, which froze after falling, and hail, fell to the depth of two inches. On the morning of the 8th, the trees were beautifully encased with ice, which remained on during the day—11th and 12th, snow fell 3¼ inches—14th, mercury at six o'clock, A. M., 2° below 0; at sunrise at 0—16th, snow 1¼ inch—17th, rain during last night, two inches—during the day a fall of three inches of snow, which, freezing into the previous snow, moistened by the rain, makes fine sleighing—19th, snow from S.E. fell 2⅛ inches—20th, snow from N.W. 1¼ inches—sun sets very pleasant—22d, commences snowing at four o'clock 10 minutes, from S.W. The clouds through the day had alternately indicated snow and rain; storms through the night, rain and hail; principally the latter, which continues to fall until noon the 23d, being furiously driven for the last 12 hours by a N.E. wind,—changes to snow, which continues to fall until 7 o'clock, P. M.,—prevailing wind since noon, N.W. The depth of hail, which fell in this storm was four inches, which makes an unpleasant crust in the woods and open fields. In many places it is blown together so compactly, as to bear a horse. The quantity of snow that fell in the same storm was nine inches, which is considerably though not badly drifted—24th, a very cold morning; mercury at 6 A. M., 9½ below 0; at sunrise 9° below 0; at 9 A. M., 6° below 0; at 3 P. M., 4° above 0—25th, snow 2 inches—28th and 29th, 6¼ inches—31st, at sunrise, the mercury stood at 10° below 0—which makes it decidedly the coldest morning in the season.

The number of days in the month in which there has been more or less storm, is 15—leaving days without storm 16. The quantity of snow and hail which fell during the month, was 37 inches, of which now remains after deducting what melted as it fell in consequence of the wetness of the earth, and what has melted by rains during storms, leaves the present amount 25 inches. The number of days entirely cloudy, during the month was 10—of entire clearness four. W. Bacon. *Richmond, Mass., Jan.* 3, 1851.

Premium Cows---Butter, &c.

Wm. S. Lincoln received the premium of the Worcester county (Mass.) Ag. Society in 1850, for the "best three cows from a stock of not less than five." The quantity of butter made from each of these three cows during the first nine days of June, was as follows: No. 1, 17 lbs. 12 oz.; No. 2, 9 lbs. 4 oz.; No. 3, 10 lbs. 6 oz. The quantity made from the same cows during the first nine days of September, was—No. 1, 12 lbs. 12 oz.; No. 2, 4 lbs. 4 oz.; No. 3, 6 lbs. 6 oz.

John N. Whitney received the premium for the "two best cows kept with a stock of not less than five." In the first nine days of June, the butter made from one of these cows, was 15 lbs. 8 oz.; that from the other 17 lbs. In the first nine days of September, one of the cows gave 10 lbs. butter, the other 12 lbs. The feed was pasture only.

Winter Mangement of Cows.—Mr. Lincoln gives the following in relation to the management of his cows in winter:

"They are stabled, are fed at regular hours, have a good bedding at night, are cleaned every morning with the *curry-comb* instead of the *card*, are kept stabled except for two or three hours in the middle of the day, if fair weather—if stormy they are not out, except a sufficient time, morning, noon and evening, to allow them to drink. Milch cows should be kept *warm* and *dry*. The hay given to the cows is of ordinary quality, and each cow is fed with from one to two pecks of carrots per day. The butter made in winter, by the aid of carrots, is fully equal in *color* and *sweetness* to that made in June. The milking and care of my stock, is attended to by myself unless prevented by sickness or absence—milking throughout the year uniformly at six o'clock in the morning and six in the evening."

Mode of making Butter.—"Except in the extremes of summer and winter, the milk is kept on the ground floor of the house, in tin pans; remains from 36 to 48 hours, when the cream is taken off and put in large stone pots; water is placed in the churn and stands over night; the cream is churned slowly but steadily; the butter is washed in cold spring water; the butter-milk is worked out, and the salt worked in—stands 24 hours when it is again worked and lumped. We use a 'butter worker,' and generally add three-fourths of an ounce of salt to a pound of butter. We think the butter is firmer, more waxy and even, if the churning occupies from 45 to 60 minutes, than when brought in less time."

Agricultural School.

Governor Hunt, in his message to the Legislature of this State, calls attention to the importance of establishing an Agricultural School and Experimental Farm. He says:—

> It cannot be doubted that an institution of the character proposed would promote the dissemination of agricultural knowledge and elevate the condition of the people. In its formation I would recommend an additional department for instruction in the mechanic arts. Identified in interest, each imparting strength and vigor to the other, the agricultural and mechanical classes combined may be said to constitute the substantial power and greatness of the commonwealth. The free spirit of our institutions and the incentives to effort in which this country abounds, are peculiarly favorable to the development of inventive genius and rapid advances in the useful arts. Our unparalleled progress may be attributed in no small degree to the successful skill of our Artizans in originating and perfecting the varied improvements which increase the productiveness of labor in most branches of human industry. Yet from the nature of their pursuits and the necessity which subjects them to a life of toil, too many of our youthful mechanics are deprived of those means of intellectual improvement which the State has provided for other professions. The beneficial effects of an Agricultural and Mechanical School will not be limited to the individuals who may participate directly in its privileges. The students graduating from such an institution, elevated in character by moral and intellectual training, and endued with that knowledge of the natural laws and practical sciences which unites manual labor with the highest exercise of the reasoning faculties, will become teachers in their turn, imparting to those around them the light of their own intelligence, and conferring dignity upon the common pursuits of industry by an honorable example fo usefulness in their varied occupations. The elevation of the laboring classes is an object worthy of the highest ambition of the statesman and the patriot. Under our republican system of Government the political power of the State must always reside among the men of industry and toil, whose virtuous energy is their best patrimony. The intelligence which qualifies them for the duties of self-government, affords the only sure guarantee for the perpetuity of our free institutions.

The Potato Disease.

Eds. Cultivator—In your number for September I brought down the history of the potato disease for the present year, to August 10th. I remarked in that article, that "I anticipated painful results." Painful indeed, they have been. Many fields around me are not worth digging. So uncertain has been the condition of potatoes, that consumers in our city, until quite recently, have been afraid to purchase more than the supply of a day or two at a time. It may be hoped that time has so far purged our fields, that the portion of the crop now sound, will remain so during the winter, if wisely stored.

I. Causes of Increased Severity.

In my last article in your paper, I observed, that the disease is, this year, "more obviously connected with *hot* and *wet* weather, and less with that which is *cold* and *windy*, than in former years." Indeed, I consider that this last cause is what has given the disease this year, its frightful malignity. The effect of it was to cover the herbage of the potato with a white mildew, which not only destroyed the leaves, but also to a considerable extent, the solid stems; and often, also, the seed balls, and the very foot-stalks on which they grew.

The obvious effect of such mildew would be, not only to destroy the elaborating process of the plant, but also to throw into the circulation a mass of half elaborated and poisoned matter, quite sufficient to corrupt the tubers, aside from the influence of the ordinary causes of disease which had been previously operating, as detailed in my last article. That article was closed in the midst of that weather, and before its effects were pointedly seen.

The melon, tomato, corn and other tropicals, bore it without much injury, as it is just what they are liable to in their native regions, especially during the annual "rainy season." But the potato, being a mountain plant, and so accustomed to a cooler, dryer, and purer atmosphere, was well nigh destroyed by it. A friend of mine, who recently spent some time in New-Grenada, says that "the climate around Bogota, where the potato is grown in the greatest perfection, is not warm enough to produce melons and tomatoes in perfection, so that they are usually brought on the backs of mules from the low and hot regions; and that the thermometer does not vary, during any one day, more than five degrees. Frosts, and our high summer heats, are there equally unknown; and the cabbage and pepper live through the whole year, and are, there, biennial plants."

We, by endeavoring to grow the potato in a soil and climate hot beyond its constitutional requirements,—one adapted, during the season of growth, to the melon, tomato, &c., have outraged its capabilities. This, with a failure to renew it frequently from the seed-balls, has brought it to the verge of ruin. Nor should it be forgotten, that in our anxiety to get large crops, and large tubers, we have grown it in too rich a soil, which, taken in connection with the preceding causes, has overworked the excitability of the plant, and made its structure open and vascular, like a hot-bed production. Hence it feels changes, through which, even in this unsteady and ungenial clime, it once passed in comparative safety. I have taken the ground, in my Essay on the Potato Disease, (published in the "Transactions of the State Society for 1847 & 8,) that the potato, in most of its constitutional requirements, ranks, not with tropicals, but with the cereal crops, and the hardy fruits and vegetables of temperate and cool climates. In harmony with this position, the hot and wet weather which gave the finishing impulse to the potato disease this year, rotted the fruit of the plum before it was ripe, and defoliated its branches.

The fruit of the peach was also occasionally injured. Grapes, whether foreign or native, especially where they grew most luxuriantly, were very generally affected, the leaves frequently falling before the fruit was ripe, and the summer's growth, especially in the case of luxuriant grafts, frequently nearly all perishing on account of the immaturity of the wood when the leaves fell. Turneps that mature in the middle of the summer, and winter cabbage, that was cut early in the fall, were both extensively affected by decay. Had this weather occurred a few weeks earlier, it would undoubtedly have resulted in the *rust* of the wheat crop.

II. OTHER INTERESTING FACTS.

1. *Mowing off the Vines.*—On the 24th of August, soon after the close of my last article, I mowed off the vines on about one-half of an acre which had been planted a little later than my main crop, and where the vines had suffered less from the mildew, than some others. The result was the saving of the tubers almost entirely from the rot. Had I mowed a little earlier, I think they would all have been saved.

2. *Effect of shade.*—The shade of high fences, trees, and hedges, just as in former years, had a very manifest influence in moderating the effect of disease. These protections were on the east and south-east sides of the portions of the crop benefitted. The beneficial results were due obviously to the moderation of the morning heat, after a season of cold chills.

3. *Early and rapid Disease least Injurious.*—My largest plat of potatoes embraced about two acres. The soil was a light gravelly loam,—a fair soil for corn, but too much wanting in vegetable matter to be well adapted to potatoes. Its shape was a parallelogram. Across one end, and including about one quarter of the plat, I applied leached ashes, (mixed with soda ash,) from the soap-makers. One side of this piece was planted with Early Pink-eyes, and the other with Carters. Although the soil was naturally very light and dry, yet the effect of the ashes, in connection with the frequent and heavy rains of the season, was to keep the soil much more moist than that of the remaining portion. On the three quarters of the field, where no ashes was applied, the potatoes of both sorts, died early and most rapidly; and when dug were sound with very few exceptions; although they were small and few. The fatal impression of disease was here made I think, by the ordinary causes, i. e., sudden changes of heat and cold. The suddenness and power of disease here seemed to act like the scythe, in a preceding case, i. e., it cut off communication with the tubers, and so prevented the transmission of morbid matter. On the portion where the ashes was applied, the crop grew stronger, died a slow and lingering death, and in the autumn were scarcely worth digging, so badly were they diseased. It may be asked how the slower death of this richest portion of this plat is consistent with the common, and undoubtedly true doctrine, "that the rankest growth is usually most early and rapidly diseased." I answer, that the moister and therefore cooler position of this portion saved it somewhat from the influence of the ordinary causes of disease that so fatally affected the other portion, and at the same time, the more fatally exposed it to the later impulse of disease, i. e, hot rains. These results of early and rapid disease are also parallel with the experience of former years. See the essay for 1847.

4. *Reported Exemption from Disease.*—In the season of digging potatoes I heard of a large cultivator of potatoes, in a neighboring town, whose crop had escaped disease. Pleased with so grateful intelligence I hastened to the spot. I found about fourteen acres, planted with "western reds," on a very light sandy soil. The crop was indeed sound, with few exceptions, say about one diseased potato to ten hills; but then the owner had to acknowledge that the crop "had been early struck with the rust," as he called it. Certainly the yield was small. The degree of exemption from disease in this case probably resulted from two causes—a high degree of comparative vitality in the sort planted, and the rapid action of disease operating as in my own experience above in the case 3.

III. HOPE FOR THE FUTURE.

Admid all this gloom the farmer should not utterly despair. Even with our present feeble varieties for seed it is, to me, highly improbable that the next year will be as bad as the present has been.

Those who keep records of the weather will, I think, justify me in the assertion that, the extreme wetness of the past summer, and the damp and hot state of the atmosphere, much of the time, from July 14th to August 21st, constitute it the most severe season for the potato experienced for many years: at least the most so of any that have occurred since the first appearance of the disease in 1843. Many fields of new soil, such as were well stored with vegetable matter, and were of that simply moist character which past experience has proved most congenial to the potato, have proved so wet, this year, as almost entirely to fail of a crop. The same has been true of clay soils generally.

On the other hand, soils constitutionally very dry have proved amply moist. In view of the constitutional requirements of the potato, and of the peculiarities of the season, peculiarities affecting not the potato alone, but also many other vegetables, I hesitate not to say that had the potato been possessed of all the vigor which it had fifty years ago, it would nevertheless have been diseased this year. C. E. G. *Utica, Dec.* 1, 1850.

Cattle Show of the Smithfield Club.

The annual show of this association came off at London on the 11th, 12th, and 13th of December last. It exceeded in numbers that of any previous year. There were sixty more entries for cattle, and twenty more pens of sheep, than in 1849. The prizes for fat oxen and steers were chiefly carried by the Herefords and Devons. A Hereford steer two years and ten months old, received the gold medal as the best ox or steer in the show, as well as a prize of £25, and a silver medal to the feeder. He is spoken of as a most beautiful and symmetrical animal, and was sold to a butcher for £68, (about $340.) The gold medal for the best fat cow was awarded to a short-horn, five years old. The first premium for pigs was awarded to WM. FISHER HOBBS, for specimens of the Essex breed. One of this lot, which, from having received an injury on the way to the show, was slaughtered, weighed, dressed, 521 pounds. It was seventeen months old. Prince ALBERT received a second prize for pigs. They were of the Yorkshire breed. The Duke of WELLINGTON was an exhibitor for the first time. He exhibited a curious animal—a fat cow, a cross between the Scotch Highland cow and the Bramah bull. The show was visited by the Queen and most of the royal family. The *Mark-Lane Express*, in speaking of the show observes:

> We believe it will be universally admitted that the exhibition of animals at the show of the Smithfield Club last week was very much superior to any which preceded it; not only was the number of animals greater, but their general character was of a superior order. That a great improvement has taken place in the evenness which the animals show, as compared with those exhibited some years since, is very manifest. The patchiness, so common ten years ago, is now rarely seen in well-bred animals. Some persons are inclined to ascribe this improvement to a change of taste on the part of the feeders, who are no longer partial to the "mountains of tallow" which they formerly seemed to admire. We, however, are not disposed to ascribe any alteration which has taken place to such a cause; we believe that the art of fattening animals has greatly improved, and we are also of opinion that the frame of the animal to which that art is to be applied has itself been rendered more suitable for the purpose through the skill of the breeder, and we are inclined to give credit to the exertions of the Royal Agricultural Society, and other societies of a like description, for having been instrumental in attaining that end through the encouragement afforded to the breeders of live stock. It matters little which particular breed of animal may obtain the superiority as regards the number of prizes awarded to it at any single show, inasmuch as it will be seen that of the two breeds exhibited in the greatest number on these occasions, namely, the Short-horns and Herefords, upon an avrage of seven or ten years there will be but little variation. A singular circumstance has, however, been pointed out to us by a correspondent, which will be regarded with interest by the respective advocates of the two breeds alluded to. It appears that the Hereford ox belonging to Mr. Heath, to which the gold medal was awarded, is of exactly the same dimensions as the short-horn steer belonging to Earl Hardwicke which obtained the first prize in Class 2; the former being, according to the catalogue, just one year younger than the latter. Thus, then, the Hereford steer of two years and ten months old attained the same bulk which the short-horned reached in three years and ten months. It is true the Hereford ox in question was a most extraordinary animal; but regarding it as such, it shows what the breed is capable of.

ANSWERS TO INQUIRIES.

Kidney-worm in Swine.—J. D., Wisconsin. The presence of kidney-worm may generally be known by the animal appearing weak across the loins, and sometimes by a weakness in one or both hind legs. As soon as these symptoms appear, give the animal corn soaked in lye of wood ashes, or strong soap-suds; at the same time rub the loins with spirits of turpentine. We have heard of arsenic being given for this complaint, but do not know the proper quantity for a dose.

"Native Breeds of Fowls."—S. J. W., Utica. All our domestic poultry, except the turkey, was introduced from the Old Continent. It is not, therefore, proper to say they are "natives" of this country. We presume the expression "native breed," frequently used in reference to fowls, means nothing more than the common "dung-hill" stock, which are of no particular breed, though very good fowls are sometimes found among them.

Sage.—D. B. R., Southeast, N. Y. The Shakers prepare sage for market by first drying it thoroughly, then grinding it in a mill, and then bolting or sifting it. We do not know what kind of mill is used for this purpose. The usual mode of cultivating sage is to sow the seed in a bed, and when the plants are fairly up, transplant them into good ground; setting them in rows two feet apart, and the plants at spaces of ten to twelve inches in the row. The leaves are gathered from time to time, as they reach their full size, and are carefully dried in the shade.

Side-Hill Plow.—P. C., Cavendish, Vt. The side-hill plow which received the premium at the trial of the New York State Ag. Society in June 1850, was Bosworth, Rich & Co's., Troy. Its price is $7. Prouty & Mears, Boston, Ruggles, Nourse & Mason, Worcester, and Eddy & Co., Union Village, Washington county, N. Y., manufacture side-hill plows, the prices of which are from $7 to $9.

Corn-stalk Cutter.—J. C. C., Cornellsville, Pa. One of the best machines we have ever seen for cutting corn-stalks, is Wheeler's. It may be worked either by hand or horse-power, and will cut and mash the largest stalks with great despatch. Its price rigged for horse-power, is $27. It is for sale by Wheeler, Melick & Co., and Emery & Co. of this city.

"Brown Corn."—H. R., Geneva. The "Brown corn" is an eight-rowed variety, of reddish color. It receives its name from a man who cultivated it and brought it into notice, who resided on an island in Winnipissiogee lake, New Hampshire. It is a productive kind, of medium earliness; but we are not aware of any experiments having been made which would show its yield in comparison with other good kinds. It can be had of Joseph Breck & Son, Boston, and might probably be obtained through Emery & Co., of this city.

Kinds of Grass for mucky Land.—H. R. Red-top and Timothy would be about as good varieties as you could sow. Timothy can be obtained in almost all parts of the country. Red-top can be had of Emery & Co., at $1.62½ per bushel, for northern seed, and $1,25 for Jersey and southern.

Egyptian Goose.—S. P. T., Winsboro, S. C. This bird belongs to a different genus from any other goose. Martin observes that it constitutes one of the links between the *Anatidæ* and the *Grallatores* or waders. Its size is less than that of the common goose, and it is chiefly kept on account of the beauty of its plumage and its singular habits. Its Greek name, *Chenalopex*, signifies Fox-goose, indicative of its resemblance to the fox in cunning and vigilance.

Spoke-machine.—L. C., New-Paltz, N. Y. The machine about which you inquire, was invented by Allen Goodman, Dana, Worcester county, Mass. There is one in operation in this city, owned by Mr. Wemple. It appears to be an excellent machine. It takes the spokes in the rough, and brings them out entirely finished, except to be smoothed, which is done by holding them on an emery roller.

Cranberries.—"Subscriber," De-Witt, N. Y. We gave an article in our number for December last, page 403, which comprises the best information we can give you on the points of your inquiry.

Stump-machine.—One of the best machines of this kind which has ever been invented, is Hall's, described in our volume for 1845, p. 27. It is worked by three men and a boy, with a horse. With this force, it will extract any stump. Its cost, rigged with chains, levers, and all apparatus for working, is $300 to $400, according to size. The charge for pulling stumps is 15 to 25 cents each. For particulars address R. Hall, Owego, N. Y.

Mott's Agricultural Furnace.—R. C. G., Randolph county, Ga. The price of this article of the capacity of 40 gallons is $18—for 45 gallons $20. For sale by Emery & Co., Albany.

"Dow's Winter Pippin."—W. A., Canajoharie. We know of no apple by this name.

Gilmore's Apiary.—A letter received from Philadelphia, requesting information in regard to the report of the committee who examined this article at the late State Fair, has been mislaid. If the writer will give us his address, the information called for will be immediately forwarded.

Killing Alders.—W. J. B., Bethmont, N. C. The last of August is considered the best time to cut alders, for the purpose of destroying them. Performed at this season, the operation has generally been successful. More or less will generally sprout the next year, but if the sprouts are bruised off at the same time in the year that the previous cutting was done, the extirpation will be pretty much accomplished.

Tall Oat-grass.—This grass has been tried in some instances in the eastern and middle states. It grows well on loamy or lightish soils, but its quality is not very good, either for pasture or hay. We have not heard of its being cultivated in the southern states.

Chilian or Peruvian Clover.—The plant we have seen under this name, is not "identical with Lucerne." We are not sufficiently acquanted with the former to give an opinion as to its adaptation or value for this country, neither can we tell where the seed can be had.

Gardening Implements.—J. S. M., Drummondville, C. E. A box of gardening implements can be had of Emery & Co., Albany. The price is $16. The same amount of money laid out in a selection of other tools, will bring more value.

Michigan Sod and Subsoil Plow.—J. C., Freehold, N. J. The proprietor of the patent for this plow is Newell French, Rome, N. Y. The plow is for sale by Emery & Co., Albany.

Black-Walnut Lumber.—J. W., Berrien Springs, Mich. We learn that good black walnut planks are worth $30 per thousand, board measure.

NEW PUBLICATIONS.

Harper's New Monthly Magazine.—The number for January 1851, contains many interesting articles, with several handsome engravings—the whole executed in the usual fine style. It is not surprising that this magazine, when we consider its cheapness and high value, should have reached, in the short period of eight months, a circulation of over 50,000. Three dollars a year or twenty-five cents a number, each number containing 144 pages octavo. Harper & Brothers, New York.

Lossing's Pictorial Field-Book of the Revolution.—We have received No. 10 of this beautiful work. Its interest as well as its superior typographical execution, is fully kept up. It ought to be in every family in the United States. Published by Harper & Brothers, New York, at twenty-five cents a number, each number containing forty-eight large octavo pages. The work will be completed in about twenty numbers.

Phrenological Journal.—This publication has been enlarged to quarto size, and in addition to information on the subject of Phrenology, there are departments for Physiology, Mechanics, Educattion, and general Miscellany. The work is beatifully got up, and has numerous illustrations executed in a superior style. It is published monthly by Fowlers & Wells, 131 Nassau street, New York, $1 a year.

Eighth Annual Report of the American Institute.—This is a neatly printed volume of 544 pages, from the press of C. Van Benthuysen. It contains the proceedings of the second Congress of Fruit Growers, (1849,) and several other valuable papers.

The Home Journal.—This delightful journal enters upon the new year in a new and beautiful dress, and shows an increased and wonderful activity on the part of its Editors, in catering for the public taste. It has several new features, which no one but N. P. Willis could sustain; and is altogether unique in its whole tone and character. It cannot fail to have a "great run." Enclose $2, to Morris & Willis, 107 Fulton st., New York, and its Nos. will greet you weekly for the coming year.

"Flax Cotton."

The English papers announce the discovery of a mode of preparing flax for the manufacturer, by which the slow and wasteful process of steeping or rotting is entirely superceded. In connection with this discovery, another of still greater importance has been made, which is thus described by the London *Morning Chronicle*:—"M. Claussen has succeeded in manufacturing the unsteeped flax into various descriptions of material, which possess respectively all the warmth of wool, the softness of cotton, and the glossiness of silk—and which so closely resemble these several fabrics, both to the eye and the touch, that we should neither credit the fact ourselves nor task the faith of our readers by the assertion, had we not before us actual samples of the results produced, exhibiting in one and the same bundle of fibres, the raw flax at one end and the *quasi*-silk or cotton at the other." The same paper further remarks, "that the process employed, like that used in the preliminary preparation of the raw material, is exceedingly simple and inexpensive. The cost of converting the unsteeped flax into cotton, amounts, we understand, to no more than seven sixteenths of a penny per lb."

The difference between the price of flax when thus prepared, and that of raw cotton, is estimated as "from one-third to one-half in favor of the former." Another remarkable fact connected with these discoveries is, that "the same invention which dispenses with the operation of steeping, renders the flax suitable for a process which adapts it to the cotton mill." It is stated that the "flax-cotton" has been tried at Manchester, and the paper before named, thus speaks of the result:—

"The cotton spindles took as kindly to the new material as if it and they had been expressly made for each other. With a very slight alteration in the machinery—which, however, will not required hereafter—it did its work perfectly; and on Saturday night we were shown the fruits of the invention, in the shape of a quantity of rovings' and yarns of unimpeachable quality and color, in a state of perfect readiness for the further processes of weaving and manufacture."

New-York State Agricultural Society.

Annual Meeting.

The Society convened in the Assembly Chamber at 12 o'clock on Wednesday the 15th of January, 1851, the President, E. P. PRENTICE, Esq., in the chair.

The roll of members having been called, the Secretary of the Society, B. P. JOHNSON, Esq., read the report of the Executive Committee. The report presents an encouraging view of the operations of the Society for the past year, and flattering prospects for the future.

The report of the Treasurer, LUTHER TUCKER, Esq., was read and accepted. The receipts for the year amount to $15,316 91, of which $10,465 61 were the avails of the State Fair—the disbursements $12,903 84—balance on hand, including silver plate, paid for, for premiums not yet presented, $2,643 07.

Mr. GEDDES moved that a committee of three from each judicial district—to be selected by the delegates from each—b appointed to report the names of officers of the society for the year, and to recommend a place for holding the next State Fair, which being agreed to, the committee retired, and at 4 o'clock, P. M., reported the following list of officers for the ensuing year:—

President—JOHN DELAFIELD, of Seneca.

Vice Presidents—William Buel, Monroe; Silas M. Burroughs, Orleans; Lewis G. Morris, Westchester; Anthony Van Bergen, Greene; Augustus L. Clarkson, St. Lawrence; Henry Wager, Oneida; Benjamin Enos, Madison; Ray Tompkins, New York.

Corresponding Secretary—B. P. JOHNSON.

Recording Secretary—J. McD. MCINTYRE

Treasurer—LUTHER TUCKER.

Executive Committee—Ambrose Stevens. John B. Burnett, M. G. Warner, Josiah W. Bissell, Benj. B. Kirtland.

These officers were unanimously elected.

The committee recommended Rochester as the place for holding the next fair.

Mr. PARDEE, of Wayne, offered a resolution requesting the executive committee to make application to the Patent Office for copies of its reports and for choice seeds, for distribution among the county societies—and to procure a larger than the usual number of copies of the Transactions of the American Institute, for like purposes.—Agreed to.

Mr. L. F. ALLEN, of Erie, proposed an amendment to the constitution of the Society—providing that the payment of $10 shall secure a life membership, instead of $50 as heretofore.

Mr. KEESE, of Essex, seconded the motion.

Gen VIELE, of Rensselaer, opposed it.

Mr. MORRIS, of Westchester, proposed a modification, to the effect that the moneys raised from this source be invested—the income only to be applied to the objects of the society.

This was opposed by Mr. L. F. ALLEN, and lost.

The question was taken and the proposition was adopted by more than the constitutional two-third vote—8 only voting no.

On motion of Mr. MURRAY, of Otsego, a committee of three was directed to be appointed to procure, if practicable, a reduction of tolls on draining tile.

The PRESIDENT appointed (the mover declining to be of the committee) Messrs. S. M. Burroughs, Luther Tucker and B. B. Kirtland.

Mr. NOTT brought forward the subject of Mr. Comstock's discoveries in regard to the principles of vegetation—and moved that a committee of five be appointed (of which the President should he one) to confer with Mr. C. and report to the succeeding meeting of the Society, or to the Executive Committee—who were to take such action as they might deem necessary.

Mr L. F. ALLEN sustained the proposition—

And after some remarks from Mr. BEEKMAN in regard to the principle which Mr. Comstock claimed to have discovered, but which Mr. B. thought he had only reduced to successful practice,

The resolution was adopted—and the

PRESIDENT appointed Messrs. Nott, Downing, Van Bergen, L. F. Allen and Prentice, as the committee.

Adjourned to meet at the Agricultural Rooms, to-morrow morning.

THURSDAY, Jan. 16.

The Society met at the Agricultural Rooms agreeably to adjournment, and after the report of several committees were read, adjourned to meet at the Assembly Chamber at 7 o'clock, P. M. At the time appointed, the President, E. P. PRENTICE, Esq., called the Society to order, and after the announcement of the awards of premiums, introduced A. J. DOWNING, Esq., who addressed the Society, in a very able, interesting, and appropriate manner.

At the conclusion of the address, Hon. J. P. BEEKMAN offered a resolution of thanks, accompanied by a request that a copy of the address be furnished for publication.

The retiring President then made some interesting remarks in regard to the financial condition and general prospects of the Society, which were shown to be highly encouraging, after which he introduced the President elect, JOHN DELAFIELD, Esq., who, in a few observations signified his acceptance of the office to which he had been elected.

After some discussion in relation to the establishment of an Agricultural School and Pattern Farm, the Society adjourned.

AWARD OF PREMIUMS.

BUTTER.—1. Ela Merriam, Leyden, Lewis co,..............$15

2. Joseph Cary, Albany.................................. 10

Special premiums to Nelson Van Ness, Chautauque, and Noah Hitchcock, Jr., Cortland co., for very fine samples.—Vol. Trans.

Roswell L. Colt, Esq., New Jersey, presented a pot of Butter made from the milk of Alderney cows, which was pronounced in flavor and quality superior to any Butter exhibited before the Society; having the peculiar characteristics of the Butter produced from this celebrated breed of dairy animals.

Thanks of the Society and Diploma, were tendered to Mr. Colt for this choice sample of Butter.

WINTER WHEAT.—1. Wm. Hotchkiss, Jr., Lewiston, Niagara co., 64 bu. per acre,..................................$20

2. S. L. Thompson, Setauket, L. I., 42 bu. 1 peck,............ 15

3. Justus White, Pamelia, Jefferson co., 40 bu. 2 pecks,...... 5

INDIAN CORN.—1. Peter Crispel, Jr., Hurley, Ulster co., 100 bu. 1.32 per acre,...................................$20

2. Robert Eells, Oneida co.,................................ 15

Squire Foster, of Hillsdale, had 97 18.32 bu. on one acre, but as the regulations required two acres no premium could be awarded.

John Binsse, of Pamelia, Jefferson co., had 575 bu. by weight and 560 by measure, on 8 acres 9.10ths of land.

OATS.—1. H. B. Bartlett, Paris, Oneida county., Potato Oats, 88 bu. 14 qts. per acre,..................................$15

2. George H. Eells, Clinton, Oneida co., 87 bu. 3 qts,......... 10

3. H. B. Bartlett, Paris, Oneida co., common oats, 84 bu. 21 qts, 5

E. M Bradley, East Bloomfield, raised 83 bu. 7 qts. per acre.

BARLEY.—1. E. M. Bradley, East Bloomfield, Ontario co., 53 bu. per acre,.....................................$15

2. E. R. Dix, Vernon, Oneida co., 44½ bu., superior quality,... 10

3. Wm. Baker, Lima, Livingston co., 47 14.48 bu. per acre (quality not equal to Mr. Dix's),........................... 5

PEAS.—1. E. M. Bradley, East Bloomfield, 41½ bu. per acre,..$10

2. Mr. Rapalje, Rochester, "Early Kitt" Peas, fine specimen,...Vol. Trans.

BEANS.—Asahel R. Dutton, Meredith, Delaware co., 30 bu, 20 qts. per acre,...$10

POEATOES.—1. Quality: H. B. Bartlett, Paris, Oneida co., 304 bu. "Western Reds,"......................................$15

1. Quantity: Nathan Taft, Pittstown, Rensselaer co., 325 bu... 15

RUTA BAGA.—1. Valentine H. Hallock, Northeast, Dutchess co., 1,015 bu. per acre,.................................. $10

CARROTS.—1. E. Risley & Co., Fredonia, Chautauque co., 951½ bu. per acre,.. $8

2. N. Hayward, Brighton, Monroe co., 431 bu. per acre,..... 6

CAULIFLOWERS.—John S. Goold, Albany; Lewis E. Smith, Halfmoon.—Vol. Transactions to each.

TOBACCO.—1. M. G. Warner, Rochester,...................... $5

TIMOTHY SEED.—1. Robert Eels, Oneida co.,................ $5

2. George H. Eells, Oneida co.,.............................. 3

MANAGEMENT OF FARMS.—1. Premium: Rawson Harmon, Wheatland, Monroe co.,.....................Silver Cup, value, $50

2. D. D. T. Moore, Watervliet, Albany, co., do do 30

3. E. M. Bradley, East Bloomfield, Ontario co., do do 20

David Coonradt, Brunswick, Rensselaer, co.,.............Trans.

FRUIT.—*Apples*—largest and best collection.

1. W. H. Rogers, Wayne co., (31 varieties) silver medal and Diploma.

2. N. Hayward, Brighton, Monroe co., (27 varieties,) vol. Downing's Fruits and Diploma.

3. R. Hardy, Ogden, Monroe co., (25 varieties,) vol. Downing's Fruits.

4. Peter Patterson, of Moscow, Livingston co., vol. Transactions.

5. J. W. Bailey, Plattsburgh, Clinton co., (21 varieties,) vol. Thomas' Fruits.

To Luther Hagar, Plattsburgh, E. M. Badley, East Bloomfield, M. J. Pardee, Palmyra, Wm. Newcomb, Pittstown, E. P. Prentice, Albany, Chas. Lee, Penn-Yann, E. Yeomans, Walworth, E. C. Frost, Chemung, each a volume of Downing's Fruits.

To David Emery, Ithaca, J H. Watts, Rochester, John Donelan, Greece, J. Johnson, Brighton, H. Hardy, Ogden, H. Hooker, Rochester, H. D. Adams, Brighton, E. Darrow, Greece, R. H. Brown, Greece, C. J. Ryran, Rochester, each a copy of Thomas' Fruits.

To Dennis Clark, Palmyra, Joel Hall, Marion, Eli Barnum, Walworth, D. Tomlinson, Schenectady, H. B. Bartlett, Paris-Hill, Henry Vail, Troy, Wilson, Thorburn & Teller, Alb., David Coonradt, Brunswick, W. P Coonradt, Brunswick, E. G. Stearns, Gorham, Stephen Hyde, Palmyra, Henry Powis, Seneca county, each a copy of Norton's Elements of Scientific Agriculture.

PEARS.—Best collection: 1. Henry Vail, Troy, vol. Downing's Fruits; 2. R. G. Pardee, Palmyra, vol Thomas' Fruits.

GRAPES.—Best collection: 1. Joseph Cary, Albany, vol. Downing's Fruits; 2. R. G. Pardee, Palmyra, vol. Thomas' Fruits.

FOREIGN FRUITS.—F. R. Elliott, Cleveland, Ohio, for a collection of apples, vol. Transactions.

WINES.—To Miss Goodrich, Burlington, Vt., for six varieties of domestic wine—currant, gooseburry, elderberry, &c.—small silver medal and copy of Norton's Scientific Agriculture.

To James Stoddart, Palmyra, for a specimen of white wine manufactured from a seedling grape resembling the Black Cluster, a copy of Downing's Fruits.

To George Vail, Troy, for a specimen of wine from Isabella Grapes, a vol. Thoma's Fruits.

MODELS OF FRUITS.—A beautiful collection of models of fruit, consisting of apples, pears, plums, cherries, nectarines, &c., was presented by Townsend Glover, Fishkill-landing, for which a silver medal and diploma were awarded.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have been received since our last, from Townsend Green, C., G. A. Hanchett, Julia E. Hanchet, James H. Alexander, X., William Bacon, Prof. J. P. Norton, C. E. G., H. R., A Subscriber, J. S. Copeland, A. D. W., L. Young, G. J.

Books, Pamphlets, &c. have been received as follows: Transactions of American Institute for 1849, 548 pp. octavo, and Random Recollections of Albany and Hudson, from Charles Van Benthuysen, Esq., Albany——Transactions of the Ag. Societies of Massachusetts, for 1849, from Wm. Bacon, Esq., Richmond——Annual Report of the New Haven Co. (Ct.) Hort. Society for 1850——Nova Scotia Farmer's Almanac for 1851, from C. H. Belcher, publisher, Halifax, N. S. ——Proceedings of the Greene Co. Ag. Society for 1850, from A. Marks, Esq.——Transactions of the Worcester Co. (Mass.) Ag. Society, for 1850, from J. W. and W. S. Lincoln, Esqs.

Specimens of Indian Corn for the World's Fair.—Among the various contributions from this State to the World's Fair, few, we think, will attract more attention than a collection of varieties of Indian corn, prepared and forwarded Mr. B. B. Kirtland, of the Cantonment Farm, Greenbush. The collection embraces seventeen varieties, grown in New York. All of them are shown in the ear, and are arranged like the petals of a flower, around a central point. Specimens of several of the varieties are also shown on the stalk, with the leaves and other parts of the plant, thus presenting a very good idea of the peculiarities of each. The different forms in which this grain is prepared for culinary and other uses, are shown by samples in glass jars, which are placed in the case with the corn. They consist of fine and coarse meal, grits, farina, hommony, starch, oil, &c. The whole arrangement is very neat, and highly creditable to the taste and judgment of the contributor.

Agent for the World's Exhibition.—Gov. Hunt in his late message, recommends that the Legislature should provide for sending an agent to this exhibition, to take charge of the various articles which may be forwarded by the citizens of this State.

Lawrence Scientific School.—This valuable school, which is attached to Harvard University, embraces instruction in Chemistry, Zoology, Geology, Engineering, Botany, Comparative Anatomy and Physiology, Astronomy, Mathematics, &c. The department of Chemistry is under the direction of Prof. Horsford; that of Zoology and Geology under Prof. Agassiz; that of Engineering under Prof. Eustis. The year is divided into two terms, the first of which commences in August and the second in February. The school enjoys a well-deserved reputation, and receives students from all parts of the country. For particulars apply to Prof. E. N. Horsford, Cambridge, Mass.

Crops in New Jersey, 1850.—Mr. Benj. Sheppard, of Greenwich, N. J., writes us that the potato crop was in most instances a failure; that white wheat was damaged by the rust, so that the crop was comparatively of little value; red wheat good in quality and quantity; Indian corn below an average yield; oats would have been good, but were injured by the storm just before harvest, which reduced the yield one-third.

Yield of Butter.—Mr. G. A. Hanchett, of West Stockholm, St. Lawrence county, N. Y., informs us that his dairy of 22 cows, produced last season an average 170 pounds butter to each cow, besides the milk and cream used in a family of eight persons. His practice has been to set the milk in earthen pans, first putting into each pan half a pint of cold water, which he thinks throws up the cream and prevents the milk from souring as soon as it otherwise would. He asks what are the particular advantages of churning the milk instead of the cream—whether it produces more or better butter. Will some one who has had experience with both modes answer?

Increased Production of Wheat in New York.—From the best evidence we can obtain, it appears that the production of wheat in this State is increasing. This increase is doubtless attributable in part to the extended cultivation of the grain, by the clearing of new land, &c.; but we think the adoption of improved modes of tillage has been also a considerable cause of this result. A writer in the *Argus* of this city gives a comparison of imports of wheat and flour at the ports of Buffalo and Oswego, and also the receipts at tide water on the Hudson, for the years 1849 and 1850, by which it appears that there was a deficiency in the imports of the latter as compared with the former year, of 141,049 barrels of flour, and 1,073,703 bushels of wheat, while the receipts at tide water for the same years, show an increase for 1850, of 8,102 barrels of flour and 869,987 bushels of wheat; from which it is reasonably concluded "that New York must have made up the large deficiency of about 150,000 brls of flour and 1,900,000 bushels of wheat."

An Old Horse.—George Young, of Grand Rapids, states in the *Mich. Farmer* that he owns a horse which is forty-five years old. He says he bought the animal in 1825, and that his age was then stated to be fifteen years; that he drove him in a buggy and rode him in this city, (Albany,) for six years, and that for the last nineteen years he has been one of a farm team; that he has still the appearance of a colt, that in 1848 he drove him 240 miles in four days. About nineteen years ago his teeth became so uneven that he could not grind hay well, and his owner had them filed down, since which "he has been able to feed with the youngest horses."

Musk-Rats.—A correspondent informs us that he is much annoyed with these animals, by their burrowing and injuring the banks of ditches, &c., and he wishes to know what is the best method to destroy them. Will some one give the desired information?

Agricultural Publications.—Edmund Ruffin Esq., of Virginia, in a lecture on the subject of agricultural improvement, remarks, "Notwithstanding all the existing obstacles and difficulties, American agriculture has made greater progress in the last thirty years, than in all previous time. This greater progress is mainly due to the diffusion of agricultural papers. In the actual absence of all other means, these publications, almost alone, have rendered good service in making known discoveries in the science, and spreading knowledge of improvements in the art of agriculture."

"NOTES ON AMERICAN AGRICULTURE."—The *American Agriculturist* for January last, has an editorial article entitled, "Review of Professor Johnston's Notes on American Agriculture." The article reviewed was published in the Scottish *Quarterly Journal of Agriculture* for July 1850—(not "September" as stated in the Agriculturist.) We noticed the same article and gave some extracts from it in the Cultivator for October last. By what propriety these "notes" are attributed to Prof. JOHNSTON, we do not understand. Their publication was commenced in the Q. Journal for March 1850, and continued through the numbers for July and October. They had the signature "B." We know of no reason for supposing them to have been written by Prof. JOHNSTON, but on the contrary, are satisfied that he is not their author. In the first place the "notes" bear eviednce of having been taken as early as 1848, a year before Prof. J. was in America. The writer speaks of having visited the New York markets, "frequently" during the season when peaches were for sale; but Prof. J. was not in the city of New York till January 1850, and he left the country in March following. Again, the writer of the "notes" speaks of having "toiled through" portions of the "far-famed Genesee country in mid-summer." Prof. J. only passed through that county once, on the rail-road, and that was in the month of September. There is much other evidence of the same kind, but this is sufficient for the present.

☞ The series of articles entitled *Village Lectures*, published as original in the *Agriculturist*, first appeared in the English *Agricultural Gazette*.

FRUIT-RAISING IN NEW JERSEY.—Mr. GEORGE W. OBERT, of Pennington, Mercer county, N. J., writes us that he has a peach orchard of 3,300 trees, nine years old, which has borne six full crops in succession. It occupies twenty acres of ground. He states that in 1849, his crop cleared $6,000. The peach crop in general, was that year destroyed by frost. The orchard is on a high northern exposure, which keeps the trees from blossoming till the spring is well advanced. Mr. O. states that he put out 500 apple trees last spring, of the choicest kinds, and that he did not lose one of the trees. Several of them produced apples the same season.

POTATO DISEASE.—Our attention has been called to an article on this subject published in the *Christian Register*. The writer thinks "the potato rot is not an epidemic growing out of atmospheric influence, but the decline, the *running out* of the vegetable, in consequence of the mode in which it has been propagated." He believes there is a "general law" that "vegetable reproduction without deterioration can take place only from the seed." He observes that if the potato be an exception to this law, it is the only one with which he is acquainted; and adds, "It is believed that no variety of grafted fruit out-lives in full vigor and excellence the possible lifetime of its parent tree." The remedy he suggests for the malady, is to "procure seed from the native potato of South America, and to propagate a new race from the savage stock." Neither this hypothesis as to the cause of the potato disease, nor the suggestion as to its remedy are new; the former has been discussed at great length in most of the European and American agricultural journals, and shown to be without foundation, and the latter has been extensively tried and "found wanting." We would refer the writer alluded to, to our volume for 1848, pp. 140, 192.

MOTT'S AGRICULTURAL FURNACE.—A subscriber in Georgia wishes to know whether this article will answer for boiling sugar from the sugar-cane. Will some of our correspondents answer the inquiry?

CULTIVATION OF THE CHESTNUT.—A correspondent in Otsego county, wishes information in regard to the best mode of cultivating the chestnut. He has planted the seeds several times and cannot make them grow. We shall feel obliged if some one who is acquainted with the cultivation of this tree, will give us a communication on the subject.

BARLEY TRADE OF ALBANY.—This city is the principal point of trade in barley for the Northern and Eastern States, and frequent purchases are made here for the cities along the coast, as far south as Charleston. The *Argus* gives from official documents the receipts of barley at tide-water for a period of nine years:

1838..........	677,338	bush.
1841..........	121,010	"
1844..........	818,472	"
1845..........	1,137,917	"
1846..........	1,427,953	"
1847..........	1,523,023	bush
1848..........	1,548,197	"
1849..........	1,400,194	"
1850..........	1,720,000	"

These receipts are stated to be almost entirely sold at Albany. According to the statement here referred to, the actual transactions here, in the crop of 1850, reached 1,330,000 bushels, the aggregate amount paid for which was $1,008,574, an average of 76 cents on the bushel. The lowest figure paid was 65 cents, the highest 101½.

KINDERHOOK WOOL DEPOT.—We have watched with much interest the operations of this establishment, which has now been in existence for six years. Many prominent and enterprising wool-growers in this State, were desirous that the experiment should be made, of a proper and judicious classification of fleeces, preparatory to making sales, with the hope that greater inducements would thereby be offered for improvements in breeding sheep, by obtaining remunerating prices for wool; also, that by a just discrimination between wool in good and in bad condition, motives would be presented to all wool-growers to put their fleeces in proper order for market, by thoroughly cleansing them before shearing. The success which has attended the efforts of its proprietors, we are pleased to learn has met the expectations of its friends. We learn that about the 1st of December last, one sale was made at this depot to an eastern manufacturer, amounting to over $100,000. Included in this sale, were some of the finest and best conditioned clips in the United States; and that they were justly appreciated by the manufacturer, is evidenced by the prices obtained, which were for the finest grade 65 cts. per pound; for the next 55 to 57 cts.; for the next 48 to 50 cts.; for the next 45 to 46 cts. Other sales were made of the medium and low grades at from 34 to 45 cts., which nearly exhausted their entire stock received the past season. Their present supply we are told consists only of such lots as were received late in the fall, and at the time alluded to were not sorted and ready for market.

☞ We are informed that Mr. George A. Mason of Jordan, Onondaga county, has recently sold the well-known Morgan horse "Major Gifford" to Eli Sheldon Esq., of Penn-Yan, Yates county; also a fine two year old colt by "Genl. Gifford" to Mr. F. W. Hewson, of the same place. These will prove valuable animals in improving the horses of that fine section of country.

Wild Hog.—A hog which was sent from Smyrna to Mr. Cordis, of Long-Meadow, Mass., has been running wild in that vicinity for several years, but has lately been killed by a company of hunters, after an uninterrupted pursuit of six days and nights. He had been hunted more or less for two winters previously, and has killed several dogs. We hope his skin will be carefully preserved, as it will furnish a correct idea of the eastern wild boar.

◆

Review of the Wool Market.

Those of our readers who have observed our notices of the wool market for the last eight months will find, that contrary to the views expressed early in the season, wool has advanced to a much higher price than we then anticipated. We are gratified at this result, as it will undoubtedly direct the attention of our farmers to the business of wool growing. No other branch of agricultural pursuits has suffered so much from depressed prices for the last few years, as sheep husbandry. The prices obtained for wool have not been as remunerative as those obtained for butter and cheese; and hence the dairy business in many sections has nearly superseded the growing of wool. This is a natural result consequent upon unremunerative prices for any one article of farm products.

Extensive preparations were made early in the season by manufacturers through their agents, and also by wool dealers, to purchase largely in the country. The opening prices were at a point which left a margin for profit to the manufacturer. These preparations, as is usual in such cases, created a strong and brisk competition; prices steadily advanced, and the activity in purchases continued until the entire clip of the year passed directly into the hands of the manufacturer or dealer; and when those who had been less active sought for their stock, or early purchasers went out to renew their supplies, they were compelled to resort to the principal wool markets to obtain them. The fact was then conceded, that the demand and supply of wool were so nearly equal as to enable the holder, and not the purchaser, to name the price.

Wool has now reached a price which, it is believed, will fully remunerate the grower; and we can see no good reason why it should not remain so, while the rather short supply continues, and the money market remains easy as at present. This state of things will, undoubtedly, be unfavorable to the present prosperity of the manufacturer, unless his goods should advance beyond the ruling prices of the past year. The advance in wool will, however, aid him in obtaining an improved price for his goods, as that advance is not confined to the U. S. but is realized to an equal extent in Europe. Judging from the present state of the wool trade both in this and foreign countries, and from the prospective supply and demand. we hazard the opinion that the wool growing business in the U. S., for the next few years, will be as remunerative as any other branch of agricultural pursuits.

Wool Market—January 20, 1850.

The market was very active throughout the month of November, and early part of December and prices advanced on all medium and low grades. The stock of domestic fleece being very much reduced, the market has been less active during the early part of the present month—though prices were fully sustained. There is now more activity and a farther advance is noticed. Woollen fabrics continue low, but prices are firm, with a fair prospect of an advance; which result is much desired by the manufacturers, who say they are working "too close to the wind." We quote,

Am. Saxon fleece	48 to 55
Full blood Merinos	44 to 47
½ to ¾ do	40 to 43
Native to ¼ do	35 to 38

Premiums to Agents of the Cultivator.

As an inducement to greater exertion on the part of those disposed to act as Agents, the following Premiums will be paid, in Books, or Implements or Seeds, from the Albany Agricultural Warehouse, to those who send us the largest number of subscribers for 1851:

1. To the one who shall send us the greatest number of subscribers to The Cultivator for 1851, with the pay in advance, at the club price of sixty-seven cents each, previous to the 20th of March next, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest number, the sum of FORTY DOLLARS.
3. To the one sending us the next largest number, the sum of THIRTY DOLLARS.
4. For the next largest list, the sum of TWENTY DOLLARS.
5. For the next largest list, TEN DOLLARS.
6. For the Five next largest lists, each FIVE DOLLARS.
7. For the Ten next largest lists, each THREE DOLLARS.
8. A copy of Thomas' "American Fruit Culturist," price one dollar—a very valuable work—or any other dollar book—to every Agent who sends us fifteen subscribers and $10, and who does not obtain one of the above prizes. LUTHER TUCKER.

Albany, N. Y., Jan. 1, 1851.

◆

Remember the Terms to Clubs.

Seven Copies for $5.00—Fifteen Copies, and a Dollar Book to the Agent, for $10.00.

☞ In answer to several inquiries, we would state, that it is not required that all papers in a club should be sent to one post office We will address them to as many different offices as may be necessary.

Just Published.

A PRACTICAL Treatise on the Construction, Heating and Ventilation of Hot Houses, including Conservatories, Green Houses, Graperies, and other kinds of horticultural structures, with practical directions for their management, in regard to light, heat, and air, with numerous engravings, by Robert B. Leuchars. Price $1. For sale by J. M. THORBURN & CO., 15 John street, N. Y. Feb. 2—1t.

Fresh English Garden Seeds.

NOW landing from the Southampton, 95 casks fresh London Garden Seeds, growth of 1850, among which are several superior new varieties of early Peas, the Queen of Dwarfs, early Emperor, Prince Albert, Fairbeard's Surprise, Champion of England, Bishops, Long Pod, Dwarfs and others; 100 bushels Dwarf Blue Imperial, of the most approved sort; Shanley's Marrows, British Queen and other fine late sorts—acquisitions to the most limited garden; London particular early Cauliflower and Broccoli; fine early York Cabbage, early Wakefield, a superior early market variety—early Victoria, early Vanack, Stone's early Sprotsbers, Early Ox Heart and Large York—all famed and very desirable early sorts; 20 bushels extra fine early short top scarlet Radish; 10 cwt. Skirving's improved Ruta Baga; 20 bushels broad Windsor Beans; 30 bushels Rape seed; 30 bushels Pacey's Perennial Rye Grass; 10 bushels fresh prepared Mushroom Spawn, with a great variety of miscellaneous seeds, which, with their fresh stock of American growth, renders their assortment the most complete in this country, and on lower terms than articles of the same quality can be procured of any other establishment in America. Price Currents, for wholesale dealers, can be had on application. The above is but a small portion of their importation. Larger arrivals from France and Holland are hourly expected, and the whole from the most reliable sources. In short they warrant every article emanating from their stock on hand. Catalogues gratis.

J. M. THORBURN & CO., 15 John street, N. Y.

A few bushels fresh Embden Groats, by above arrival. Price 25 cents per quart. Feb. 1—1t.

"COATE'S HERD BOOK"

OF SHORT-HORNED CATTLE, illustrated with numerous Portraits of Celebrated Animals, complete to the present time, in nine volumes, octavo, price £9 9s.

PARTICULARS OF EACH VOLUME, WHICH MAY BE HAD SEPARATELY IF REQUIRED.

New Edition, containing the Pedigrees of Bulls, as found in the 1st, 2d and 3d vols., from No. 1 to 2897, inclusive, price 21s.
New Edition, containing the Pedigrees of Cows and their Produce, which appeared in the 1st, 2d and 3d vols, price 31s. 6d.
Vol. 4, containing the Pedigrees of Bulls, in continuation, from 2898 to 6699, inclusive, price 21s.
Vol. 5, in Two Parts, containing the Pedigrees of Cows and their Produce to the year 1842, price 31s. 6d.
Vol. 6, containing the Pedigrees of Bulls, from No. 6700 to 7719, with upwards of 1,250 Cows and their Produce, to the year 1845, price 21s.
Vol. 7, containing the Pedigrees of Bulls, from No. 7750 to 8799, with upwards of 1,200 Cows and their Produce, to the close of the year 1845, price 21s.
Vol. 8, containing the Pedigrees of Bulls, from No. 8800 to 9852, with upwards of 1,550 Cows and their Produce, to the 31st of December, 1847, price 21s.
Vol. 9, containing the Pedigrees of Bulls, from No. 9853 to 11080, with upwards of 1,850 Cows and their Produce, to the 31st December, 1849, price 21s.

Published by H. STRAFFORD, 3 Camden Villas, Camden Town, London. Jan. 1, 1851—2t.

State Agricultural Warehouse.

THE subscribers would respectfully invite the attention of Farmers and Planters to their varied assortment of

Agricultural and Horticultural Implements,

among which may be found Prouty & Mear's celebrated and highly approved Center Draught Plows; Emery & Co.'s Improved Rail Road Horse-power and Thresher, (all of which took the first premiums at the late State Agricultural Fair, and are unequaled by any now in use;) together with a full assortment of the latest and most improved Plows, Straw Cutters, Fanning Mills, Corn Shellers, Seed Sowers, Cultivators, Harrows, &c., &c., which they will sell at as low rates as any similar establisment in the United States.

We shall at all times have on hand a full stock of Field and Garden Seeds, Guano, and all other Fertilizers in the market, which may be had on the most reasonable terms.

Persons purchasing articles of us may rely upon their giving satisfaction, as we intend keeping only such as we can fully warrant.

BARR & ATTERBURY,
Feb. 1—1t. No. 25 Cliff-street, New-York.

Cranberry Vines.

FIFTY THOUSAND plants, good size for planting—and can be forwarded to any part of the Union. For sale by F. Trowbridge, at Agricultural Warehouse, 49 State-street, New-Haven, Ct.

Prouty & Mears' Celebrated Premium Center Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff-street, New-York.

Feb. 1—1t. BARR & ATTERBURY.

Farm For Sale.

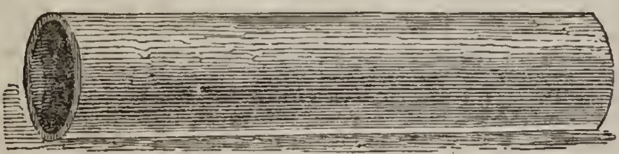
THE subscriber offers for sale the farm on which he now resides, situate four miles from the village of Waupun. The Farm contains 400 acres of land, 200 of which is prairie; the balance openings, timber and meadow land. On the farm there is two new houses, barn, stables, wells of water, and a large quantity of fine fruit trees. 200 acres are under good cultivation, near 50 of which is in winter wheat—100 tons of good hay may be cut on the place. The farm is well watered, and is without exception, one of the best farms in the state. It can be easily divided into three splendid farms, and will be sold together or separate. The price will be made low, and terms easy. Enquire, post-paid, of TOWNSEND GREEN,, Waupun, Fond Du La co., Wisconsin. Feb. 1, 1851—2t.

Emery's Horse-powers and Threshers.

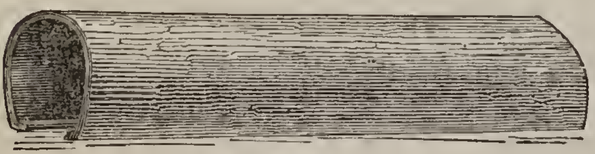
EMERY & Co.'s Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York.

Feb. 1—1t BARR & ATTERBURY.

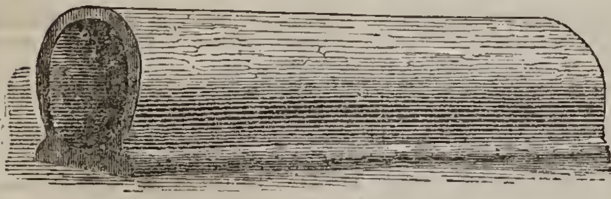
TUBULAR TILE.



HORSE SHOE TILE.



SOLE TILE.



DRAIN TILE,

TO correspond with the above descriptions, will be manufactured by the subscribers as soon as the spring season will admit, and they invite Farmers, Gardeners, and Fruit Growers, Nurserymen, Builders, those improving Pleasure and Cemetery grounds, and all persons having occasion to lay an underground drain, to examine and use the article; it is durable and cheap. Orders from a distance, with satisfactory reference, will receive prompt attention.

PRICES.

TUBULAR Tile.—3 inches diameter, $14 per 1000. 2½ inches, $12 per 1000.

HORSE-SHOE TILE.—7 inches rise, $10 per 1000. 5½ inches, $18 per 1000. 4½ inches, $16 per 1000. 3½ inches, $14 per 1000.

SOLE TILE.—5½ inches rise, $10 per 1000. 4½ inches, $20 per 1000. 3½ inches, $14 per 1000.

A. S. BABCOCK & CO., 60 Lancaster-st., Albany.
Albany, Feb. 1, 1851—1t.

School of Applied Chemistry,

YALE COLLEGE, NEW HAVEN, Conn.

JOHN P. NORTON, Prof. of Scientific Agriculture.
HENRY WURTZ, First Assistant.

STUDENTS are received in this Laboratory as a special class distinct from the other college departments, and instruction is given in all branche of Chemistry, both organic and inorganic, general and special.

Every facility is afforded to those who desire to become proficient in Scientific Agriculture, in the analysis of soils, plants, animal substances, manures, &c. Students taken with special reference to their becoming instructors.

A course of Lectures upon *Scientific Agriculture*, by Prof. NORTON, will commence about the middle of January, and continue two and a half months. This course is intended to present a plain and intelligible view of the connections of science with agriculture, which may be understood by any farmer. Mr. Wurtz proposes to lecture on some points of Applied Chemistry during the summer term.

The lectures of Prof. SILLIMAN on Geology and Mineralogy, and those of Prof. OLMSTED, on Natural Philosophy, Astronomy and Meteorology; also the college libraries and cabinets, are accessible to the students.

For information as to terms, &c., apply to Prof. NORTON,
Oct. 9, 1850—4t. *New Haven.*

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.
Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

ANDRE LEROY,

Nurseryman at Angers, France,

ALREADY well known in the United States and in Europe, having obtained at the last French National Fair, in Paris, the only Gold Medal awarded, both for his Fruit and Ornamental Trees, begs leave to inform his friends and the public in general, that he is now ready to execute, with the greatest care and despatch, all the orders that might be sent to him. His Catalogues may be had on application to his agent in New-York, Mr. EDOUARD BOSSANGE, merchant, who will receive and forward all orders for Mr. LEROY, directed to his care, and also pass through the Custom-House and forward to their respective destinations, without any trouble to the importers, all Trees and Plants ordered. Dec. 1—3t.

Agricultural Warehouse and Seed Store,

No. 197 Water-street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c. &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

Jan. 1, 1851—tf. JOHN MAYHER & Co.

Unrivaled Improvement in Water Wheels for Mill-Owners.

RECENT improvements in the French Turbine and Scotch Mortar Water Wheels, exceeding all others, even the most perfect Overshot Wheel, by a great percentage, has been patented by Mr. Henry Van Dewater. It has been fully tested, and found *far* in advance of all other wheels, both in power and economy, or quantity of water required. Its superiority is established in the following points: 1st. It gives greater percentage of the water. 2d. Is not affected by back-water. 3d. Is not obstructed by ice. 4th. Wastes no water. 5th. Is more durable. 6th. Requires less room. 7th. It is less variable in its motion when performing more or less labor, with the same supply of water.

The quantity of water required under different heads and falls, for six and a half horse power, say from 5 feet to 28 feet fall, first
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
5-114, 6-83, 7-68, 8-57, 9-48, 10-44, 11-38, 12-31, 13-31, 14-29, 15-26,
ft in ft in ft in ft in ft in ft in ft in ft in ft in ft in
16-25, 17-23, 18-21, 19-20, 20-19, 21-18, 22-17, 23-16, 24-15, 25-14,
ft in ft in ft in
26-11, 27-10, 28-9. All who may wish to improve their mills or factories, by the use of the above wheels, and will send us a statement of head and fall of water, and the amount of horse power required to drive the machinery they use. will receive immediate attention.

☞ This wheel is capable of driving, according to the quantity of water, and as the head and fall may be in height, from 6 horse-power to 250 horse-power.

Mr. Jagger is a practical and experienced mill-wright, and considers this the best Water Wheel that has ever been offered to the public.

We have a large assortment of Machinery Patterns, that have been collecting more than fifty years, and are ready at all times to furnish Castings, fitted or not, at short notice and on fair terms.

JAGGER, TREADWELL & PERRY,
Eagle Foundry and Machinery Works,
Oct 1—7t. No. 110 Beaver-street, Albany, N. Y.

THE DOLLAR NEWSPAPER,

PHILADELPHIA, PA.,

CIRCULATION ABOUT 40,000 *COPIES WEEKLY,*

And the only Family Newspaper of its character afforded to single subscribers

AT ONE DOLLAR PER YEAR,

AND is printed on a large imperial sheet of white paper, with fair, new type, of full face and small body, by which the largest amount of reading may be crowded into the smallest space. As a vehicle of the EARLIEST NEWS, it has no equal among the weekly press, and to maintain its well earned reputation as the medium through which the best ORIGINAL STORIES are given to the public, the proprietors were induced last fall to offer

FIVE HUNDRED DOLLARS AS PREMIUMS·

For the Eight best stories submitted in competition. This offer drew out a large number of stories from gifted authors, and the five hundred dollars were awarded and paid. The series of stories are now in course of publication, and will be continued through the winter and spring. In point of merit they are believed to be unequaled by those published in any other family paper. A feature peculiar to the "Dollar Newspaper," and one which greatly enhances its value with the farmer and his family, is

AN AGRICULTURAL DEPARTMENT,

In which about two colums of original articles are weekly published, on subjects connected with the practical business of the farm—the chemical properties of soils and manures; the most approved modes of cultivation, etc., etc.

The Newspaper is, in a word, perhaps more utilitarian as well as more original in matter, than any other family paper in the country, and while one dollar per year is considered very low to single subscribers, the terms to clubs are still lower; and it is to these that we especially call the attention of postmasters and all other friends of the "Newspaper," who may feel an interest in increasing its circulation. This is the season for making up clubs. The following are the club terms:

Club of Six Copies,	$5 00	*Club of Thirty-four Copies,*	25 00
Club of Thirteen Copies,	10 00	*Club of Forty-two Copies,*	30 00
Club of Twenty Copies,	15 00	*Club of Fifty Copies,*	35 00
Club of Twenty-seven Copies,	20 00	*Club of Seventy-five Copies,*	50 00

The amount of subscription in every instance must be paid in advance, and in no case will a subscription be received for a shorter period than one year. *Will our friends, the Postmasters, show the paper* to such persons in their neighborhood as may wish to become subscribers.

THE MARKETS,

Wholesale and Retail—Prices of Produce, of Cattle, etc., etc.

The important subjects which come under this head are minutely attended to, and more fully reported than in any other Weekly Family Paper in the country. In connection with this matter, a Bank Note List, the Rates of Discount, a notice of all new counterfeit and altered notes, with the Rates of Domestic Exchange, are weekily puplished, after undergoing careful revision and correction. Besides these, the prices of the staple products of the country, in all the principal markets, as well as the price of cattle in all the Atlantic cities, are condensed into a brief space in each number.

No subscriptions continued for a longer period than ordered and paid for.

Address, post-paid,

A. H. SIMMONS & Co.,
S. W. cor. Third and Chesnut-Sts., Philaddelphia., Pa.

Feb. 1, 1851—1t.*

Great Sale of Dairy Stock.

THE subscriber will offer for sale, without reserve, at Public Auction, on TUESDAY the *25th day of March*, 1851, at 12 o'clock, on the farm on which he resides, at Morrisania, Westchester county, New-York, upwards of

100 Head of Cows and Heifers.

About 50 head of them are Native and Amsterdam Dutch Cows, selected by the subscriber with reference to milking qualities. The remainder, about 50 head, are grades—half, three-fourths, and seven-eighths blood Heifers, from 1 to 5 years old, bred by the subscriber, out of the very best Cows, and got by the celebrated imported short-horned Bull "Marius;" and so far as they have come to maturity, they appear to combine, with most faultless symmetry, nearly every point indicative of perfection in a Dairy Cow.

Taking the whole dairy together, it is perhaps the best selected in the United States. The Cows, with a few exceptions, are all young, and in calf by the fine Bull "Amsterdam."

The many premiums I have been awarded, by the State Agricultural Society and by the American Institute, give evidence of success as a breeder.

I will also sell my short-horned Cow, that took the first premium at the American Institute Fair, in October last.

Two 2-year old Heifers and one yearling, all thorough bred.

Two yoke of very superior WORKING CATTLE, with several fine HORSES.

One BOAR, of the Russian grass breed.

One imported improved (white) Berkshire SOW and PIGS.

One Suffolk SOW and PIGS.

The number of hogs in all, will be from 50 to 60, and some of them are as fine as can be produced.

All the Farming and Dairy utensils, which are numerous.

☞ A Catalogue and description of each animal, will be given on the day of sale. Stock purchased to be sent to a distance, will be delivered by the subscriber on ship-board or railroad cars, in the city of New-York, free of risk and expense to the purchaser.

Morrisania is nine miles from New-York by Harlem Railroad.

THOS. BELL.

Jan. 1, 1851—3ms.*

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Albany French Burr Mill Stone Factory.

ADAM R. SMITH, late of Troy, having located at the corner of Broadway and Quackenbush streets, Albany, N. Y., invites the attention of Millers and Millwrights to his large stock on hand, inclusive of finished stones, together with his facilities for filling orders at short notice. ☞ Great care being exercised in their manufacture, by the most experienced workmen, and purchasing entirely for cash, which enables him to procure stock at the lowest market prices, he can offer superior advantages to customers.

Dutch Anchor Bolting Cloth,

Of extra heavy quality, and every other article used in milling, always on hand.

NOTICE.—Having supplied to Mr. ADAM R. SMITH, the stock of Burr Stones for his shop in Albany, we can say that his selections comprised only the best of our whole importations, which were of unusually good quality this season. M. & W. LIVINGSTON.

70 Broad-street, New-York, Sept. 9, 1850.

TROY, Sept. 17, 1850.

We have had the pleasure of several years acquaintance and intercourse with Mr. ADAM R. SMITH, and consider him a gentleman of high character, and particularly scrupulous as to his engagements. He will undertake nothing that he does not know how to perform.

ELIAS PLUM, Pres't Com'l Bank Troy.
F. LEAKE, Cashier do.

Jan. 1, 1851—2t.*

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞ Capital $50,000! ☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Transactions N. Y. S. Ag. Society.

THE Transactions of the New-York State Agricultural Society, vols. 1 to 9, for sale at the Office of "THE CULTIVATOR"—price $1 per vol.

Contents of this Number.

How to Improve Worn-out Lands, by H. C. W.,..............
On Top-Dressing with Manures, C. L. Flint,................ 68
Natural Application of Chemistry to Agriculture, by J. H. Salisbury, M. D.,........ 69
Improvement in Agricultural Implements,.................. 72
On the Cause of Animal Heat,.......................... 73
Notes of a Tour in Central New-York, by Prof. Norton,..... 74
Domestic Economy—Washing Fluid—Pine Apple Cheese—Receipes for using Indian Meal, &c. &c.,.............. 76
Interesting Items in Fruit Culture,....................... 77
Brief Horticultural Hints for the Season,................. 78
Hovey's Magazine—Canker in Fruit Trees,................ 79
English Draft Horse—Robert Bakewell—Regularity in Feeding, 80
Cross-cut Saw-mill and Horse-power—Breeding Stock—Composts,.......... 81
Agricultural Reading and Wire Fence, by J. H. Alexander—Harvesting Machines, by T. Green,.......... 82
Intense Freezing, by X.—Preparation of Bones for Manure—Agricultural Papers, by Wm. Bacon,.......... 83
Pitching Hay by Horse-power, by P. P. P.,................ 84
Old Gifford Morgan, by F. A. Wier—Notes for the Season, by W. Bacon—Premium Cows, Butter, &c.,.......... 85
Agricultural School—The Potato Disease, by C. E. G.,........ 86
Cattle Show of the Smithfield Club,...................... 87
Answers to Inquiries,.................................. 88
Notices of New Works—Flax Cotton,..................... 89
Annual Meeting N. Y. State Ag. Society,.................. 90
Notes for the Month—To Correspondents, &c.,............. 91

ILLUSTRATIONS.

The English Draft Horse,..............................80
Cross-cut Saw-mill and Horse-power,...................81

A VERY DESIRABLE COUNTRY SEAT AND FARM

For sale, in Ballston, Saratoga County, N. Y.

I OFFER for sale in Ballston, (Ballston Center P. O.) Saratoga county, N. Y., my country seat, together with about five hundred acres of land.

The land for the most part is under a high state of cultivation, yielding heavy crops of grain, grass and roots.

The fences are in good order, and mostly of stone.

There are about 60 acres of forest near the Mansion, snsceptible of ornament.

The farm-houses, barns and other out-buildings are abundant, and convenient for farming operations.

The whole farm is well watered, by streams and wells, and the stables and yards are supplied through lead pipes.

The Saratoga and Schenectady Railroad, (now laid with T. rail,) as well as the Saratoga and Schenectady Plank road, passes through the farm at convenient points.

The farm on the west is bounded by forest; on the east by Ballston lake—a beautiful sheet of water, well stored with fish, and is about four miles long, and opposite the farm half a mile wide. On the borders of the lake there is an almost inexhaustible supply of the richest muck manure, containing by analysis, one-twelfth marl, and easily obtained.

The Mansion is replete with every convenience, having eleven rooms on the ground floor, (aside from kitchen and pantries,) and including a spacious saloon 18 by 44 feet; the whole warmed by furnaces, and furnished with complete bathing establishments leading from the sleeping rooms.

The coachman and gardeners' houses are convenient.

The ornamental and kitchen gardens are in keeping, and are filled with the choicest fruits, flowers, and ornamental plants. The orchard is well stocked with the best grafted fruit.

There is a beautiful sheet of water near the Mansion, (an artificial fish pond,) well stored with fish.

There are, for supplying the Mansion and farm-houses, wells of the purest water, and cisterns for rain water.

The farm has a full supply of agricultural implements, and fully stocked; these, with most of the furniture of the Mansion, can be had with the farm if desired.

Possession given on the first of March or April, 1851.

The district of country in the neighborhood is beautiful, and uncommonly healthy. Churches of various denominations, and select schools, and a ready market for the products of the farm, are near at hand.

The property is susceptible of being advantageously divided, and will be sold in whole or in part.

I have no objection to exchange for productive property in New-York or Albany. EDWARD C. DELAVAN.

Ballston Centre, Saratoga county, N. Y.

Refer to Editors Cultivator, Albany.
Hon. Erastus Corning, Albany.
E. P. Prentice, Esq., Albany.
T. Roessle, Preprietor Delavan House, Albany.
W. L. Woollet, Architect, Albany.
Hiram Barney, Esq., (Barney & Butler,) Wall-street, New-York.
T. D. Stewart, Esq., 108 Front-street. New-York.
Samuel Young, Esq., Phœnix Bank, New-York.
J. Cady, President Schenectady Bank, Schenectady.
Chancellor Walworth, Saratoga Springs.
Judge Buel, Troy.
James Emmett, Esq., Poughkeepsie.
Hon. James M. Cook, Ballston Spa,
Barstow & Lockwood, Detroit

Feb. 1, 1851—1t

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water st., New York, have constantly on hand, the most extensive assortment of the best and latest Improved Agricultural and Horticultural Implements, and Field and Garden Seeds ever offered for sale in the United States; embracing every Implement, Machine, or Seed desirable for the Planter, Farmer, or Gardener. Also, Guano, Bone Dust, Poudrette, Plaster, &c. Feb. 1—3t.

GUANO.

WE are in daily expectation of arrivals of Peruvian Guano. Those wishing to order, will do well to do so at the earliest moment.

A. B. ALLEN & CO.,
New-York Agricultural Warehouse and Seed Store,
189 & 191 Water st.

Feb. 1—3t.

Fruit Scions for 1851.

THE subscriber will furnish Scions of the celebrated fruits of western New York, of the different varieties mentioned below:

Northern Spy.
Norton's Melon.
Early Joe.
Baldwin.
Ribston Pippin.
Red Canada.
Gravenstien.
Red Astrachan.
Lowel.
Porter.
Famense.
St. Lawrence.
Yellow Bell-flewor.
Swaar.
Westfield Seek-no-further.
Rambo.
Esopus Spitzenburgh.
Roxbury Russet.
Autumn Strawberry.
Green Sweeting.
Munon Sweeting.
Talman Sweeting.
Summer Rose.
Wagener.
Early Harvest.
Hawley or Dowse.

I will pack and send either by mail or Express at one dollar per hundred, orders post paid.

Virgalieu, Osband's Summer, Oswego Beurre, Onondaga or Swan's Orange, Pear Scions at 3s. per dozen.

N. B. In all cases where it is possible, I will send specimens of the Northern Spy apple. JAMES H. WATT.

Feb. 1—2t.

Fruit and Ornamental Trees,

For sale at the Nursery of H. Snyder, Kinderhook, Col. Co. N. Y.

THE proprietor of this establishment offers for sale, the coming spring, his usual assortment of FRUIT and ORNAMENTAL TREES, SHRUBS, VINES, ROSES, GREEN-HOUSE PLANTS, &c.

Most of the trees are of large, handsome and thrifty growth, and among them may be found many of the best sorts of Apples, Pears, Plums, Cherries, Peaches, &c., grown in this country.

The stock of Apples and Pears is finer than has been offered before at this establishment.

Also, Pears on Quince stocks—Cherries on Cerasus Mahaleb stocks—Apricots, Nectarines, Grape Vines, Gooseberries and Currants, at the lowest market prices.

Ornamental Trees can be furnished by the hundred, at very reasonable prices, and of various sizes, for ornamental grounds.

EVERGREENS.—The following can be furnished of various sizes: Norway Spruce, Balsam Fir, Arborvitea, Scotch Pine, Deodar Cedar, Cedar of Lebanon, Auricarias, Cryptomeria Japonica, Cupressus, Thurifera, &c.

PLANTS FOR HEDGES.—Privet, Buckthorn, English Hawthorn, Locust, &c.

Seedlings of the following kinds—Sugar Maple, English Sycamore Maple, Horse Chestnut, Black Walnut, White Ash, European Mountain Ash.

A large stock of Apple Seedlings, suitable for root-grafting, at the lowest rate.

Catalogues will be forwarded to all applicants.

Feb. 1, 1851—3t.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No..) and to be PAID IN ADVANCE.

☞ All subscriptions not renewed by payment for the next year, are discontinued at the end of each volume.

ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE HORTICULTURIST,

AND

JOURNAL OF RURAL ART AND RURAL TASTE,

EDITED BY A. J. DOWNING, NEWBURGH,

Author of Landscrape Gardening, Fruits and Fruit Trees of America, Cottage Residences, Country Houses, &c., &c.,

Is published monthly, at the office of The Cultivator, Albany, by LUTHER TUCKER, Proprietor.

TERMS.—Each number contains 48 pages, embellished with a Frontispiece and numerous Illustrations, printed on the finest paper, and in the best manner. Price, $3 a year—Two copies for $5.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND. E F Morton

NEW SERIES. ALBANY, APRIL, 1851. VOL. VIII.—No. 4.

Practical Husbandry.

Farming in Otsego County.

In the month of February last, we made an excursion through a portion of Otsego county. This district is comparatively new as to agriculture. Until after the Revolutionary war, it was only a hunting ground for the Indians, and its settlement has been chiefly commenced within the present century. Many of the first settlers manifested a strong interest in the improvement of agriculture, and to their influence is to be attributed, in a considerable degree, the rapid advance which has been made, and the favorable position which the section sustains in this respect.

We learn from a "History of Agricultural Societies," published by the late ELKANAH WATSON, Esq., in 1820, that a society was organized in this county as early as 1817; and this, indeed, appears to have been the first county agricultural society in the state. Mr. WATSON, who was present, and delivered an address on that occasion, spoke of Otsego as having "long stood pre-eminent in this state for its cattle and cheese." In the same address, Mr. WATSON alluded to the favorable results which this new organization was destined to produce over the whole country. He said—"A strong presentiment lies on my mind, that the time is at hand, when, either through the national or state patronage, every county in this state—I will add, in the United States—will follow your example." The great increase of agricultural societies since that day, has singularly verified this prediction.

The second exhibition of the Otsego County Society, was held at Cooperstown, in 1818. Mr. WATSON was iagan present, accompanied by DE WITT CLINTON, then governor of the state, the late Hon. STEPHEN VAN RENSSELAER, and several other distinguished gentlemen. The stimulus resulting from these visits, was productive of highly beneficial effects, which have been continued even to the present time.

Our observations, which were confined principally to the southwesterly portion of the county, could not, from the nature of the season, be of a very definite character, in reference to the cultivation of the soil. The general aspect of the country, its divisions into fields and woodlands; the external appearance of the farms, as to buildings, fences, &c., and the character of the live-stock, comprised about all that could be seen to advantage. This neighborhood has for several years been noted for its fine cattle and sheep, of various breeds; and we were informed by many persons, that agriculture, in all departments, has been greatly improved here within the last twenty years. But the raising of horses, cattle and sheep, and the products of the dairy, are still, as formerly, the chief staples. Wheat is produced to but a limited extent; Indian corn, oats, barley, and buckwheat, in considerable quantities; the yield of the latter grains being, probably, equal to the average of the state.

Besides the County Agricultural Society, which is located at Cooperstown, there has been for fifteen years, a society which has held annual exhibitions, generally at the village of Louisville, in the township of Butternuts, (now Morris.) Several hundred dollars are annually subscribed in this vicinity, including the neighboring township of Otego, which are paid in premiums on domestic animals, crops, dairy products, and manufactures. The society, though sustained entirely by individual aid, (receiving no funds from the state, as do county societies,) has kept up its exhibitions with much spirit, and with decided advantage to the farming interest.

From the acquaintance which our visit enabled us to form with the farmers of this section, we were favorably impressed with their intelligence and their desire for improvement. Many of them manifest an acquaintance with the principles of agriculture, and a determination to avail themselves of all practical information on the subject, through the medium of books, agricultural periodicals, and all other sources. They have lately organised a club for the discussion of questions connected with husbandry—the members meeting weekly for that purpose.

Much of the improvement of the live-stock of this neighborhood, is doubtless attributable to the exertions of a few individuals, who have devoted themselves considerably to that branch of farming. Prominent among these individuals, is FRANCIS ROTCH, Esq., a gentleman who has resided here for the last twenty-three years. On his first coming into this part of the country, he spared neither pains nor expense in procuring and introducing the best Short-horn cattle, South Down and Merino sheep, &c. He has also been instrumental in introducing the Devon breed of cattle, several specimens of which he imported from England; and has introduced, at various times, improved breeds of swine, poultry, &c. The opportunity of acquiring this stock has always been offered to the public on liberal terms; and the result has been an improvement which is too obvious to be doubted.

But the benefit of Mr. R.'s example and exertions has not been confined to the improvement of domestic animals. He purchased a farm which was considered utterly worn out. This he has completely renovated, and by means, chiefly, which have been adopted by others in the vicinity, with great advantage. The soil of the farm, as well as of the section generally, is derived from the decomposition of a silicious slate. Large quantities of leached ashes had accumulated from potash manufactories in the neighborhood,—their value as a fertilizer being so little regarded, that they were not deemed worth carrying away. Mr. R. commenced using ashes on his farm extensively, and with striking benefits from the outset. In the course of a few years, he applied no less than two thousand loads, of twenty-five bushels to the load—those of the first year having been obtained gratis, the second at twelve and a half cents a load, and the last at seventy-five cents a load—the latter being the price at which they now remain, and are so much sought after, that they are carted, in many instances, six or seven miles—the farmer being satisfied that even at this cost, they are applied with profit. By the aid of ashes, with strict economy in the saving and application of the manures of the farm, Mr. R. has brought his land to a highly productive state. It is chiefly devoted to grass, and produces an average of two and a half tons of hay to the acre. For several years, he has not found it necessary to purchase manures,—those made on the premises being sufficient to maintain the fertility of the farm.

Mr. R. has now relinquished the management of the home farm and the stock, to his son, Mr. F. M. ROTCH. His Short-horns were in fine condition, and many of them are among the very best specimens of the breed. His South-Down sheep, about sixty in number, denote high breeding, and in uniformity and general symmetry, they are seldom equalled. The flock has, in fact, constituted the source from which many animals have been drawn for the improvement of other flocks of this breed. He has a small flock of the French Merinos, several of which were imported. They are of very large size, and quite even in the character of their wool, of which they bear a very large quantity.

We must not omit to mention Mr. R.'s Dorking fowls, of which he has a very choice stock, derived from Messrs. BAKER of London, and other celebrated English *fanciers*. He has, also, a curious variety of rabbits, said to have been originally procured from Madagascar, but much improved in beauty and other qualities in England. In relation to these, he has obligingly furnished us with some remarks, which will be found on another page.

Devon cattle, as before remarked, have been bred in this vicinity, more or less, for several years. Those who have attended our State Fairs, will recollect the fine animals of this breed which Otsego has turned out, a good proportion of which generally stand high up in the list of successful competitors for premiums. Among the breeders of this stock, Mr. R. H. VAN RENSSELAER deserves particular mention. He has some of the finest Devons in the country. A part of his herd was derived from the importation of Mr. ROTCH, before mentioned. To these he added, in 1849, the noted bull "Major," purchased of Mr. GAPPER, of Canada, (see Cultivator for 1850, pp. 80, 81,) and during the past season has imported two very superior heifers, from the celebrated herd of Mr. GEORGE TURNER, near Exeter, England. One of these heifers, which is three years old this spring, has produced a fine heifer calf—the sire, Mr. Turner's bull which received the first prize of the Royal Agricultural Society, in the Devon class, at the show of 1850. The other heifer is two years old this spring, and has not yet bred. Though both are fine, we consider the younger, one of the most perfect animals we have ever seen. With such stock as Mr. V. R. has now in his possession, he can hardly fail to breed Devons that will be creditable to himself, and greatly beneficial to the country.

Mr. V. R. has one of the best arranged poultry-yards we have seen, (of which we hope to receive a description)—well stocked with Dorkings of Mr. ROTCH'S stock, with a handsome assortment of the Polish or Top-knot fowls, turkeys, &c. He has, also, a rabbitry, in which he breeds the variety of rabbits introduced by Mr. R.

Mr. H. N. WASHBON has been for several years known as a successful prize-taker for Devons. He has sold many, which have been taken to various parts of the country. Much of his breeding stock was obtained from Mr. GEORGE PATTERSON, of Baltimore, well known as a breeder of fine Devons. Mr. W. has several choice animals of this stock, though from being rather short of keep, some of them are not in condition, to appear to the best advantage.

Mr. JAMES BLACKMAN has several good full blood Devons, some of which are of the Patterson stock. Mr. BAKER, near New-Berlin, Chenango county, has quite a large herd, among which are some very good Devons. Other farmers do not confine themselves to full bloods of any breed, but keep Short-horns and Devons, and various grades of these with the common stock—frequently producing, however, very good animals, especially oxen, for which the neighborhood sustains a well-deserved reputation. Among these may be mentioned Mr. R. H. FRANCHOT, Mr. MORRIS, (son of the late Gen. M.,) Mr. GILLET, Messrs. N. B. and F. A. PEARSALL, and Messrs. PETER, JAMES, L. S., DAVID, and STEPHEN BUNDY. Messrs. B. constitute a *part* of what is called the "Bundy neighborhood," in Otego—a neighborhood which has long been noted for good farming, and fine working oxen. Messrs. B. have now several yoke which amply sustain their credit in this respect, and which in regard to beauty, strength, discipline, and all the qualities which constitute value in a working ox, are equal to any we have ever seen. The condition of many of the farms here, is somewhat rough and stony, and the labor on them is performed in a great degree by oxen. The best farmers are very particular in the breeding and training of this kind of stock, preferring those which, united to good constitution and substance, have a quick sprightly walk. The result is, that even at the plow, many of these oxen are not inferior in speed to the best horses, and their owners assured us that they were willing to risk any fair competition in this business, for a day or a week, or any longer time.

These oxen are generally of mixed blood, though all partake more or less of the Devon; most of them are half; occasionally some are more. The cows which produce them are frequently mixed with Short-horn blood; but some of the best we saw, were produced by cows which had a dash of the Bakewell Long-horn, derived from some animals of this breed which were imported several years since by the late Mr. Adcock, of Gilbertsville. We did not learn that any full blood Devons had yet been tried for work in this section—the demand for males rendering them too valuable for this purpose. Whether the Devons unmixed, will have sufficient weight for the most valuable oxen, remains, therefore, to be proved. It is proper to remark, however, that their size has latterly been much increased in England, and we can discover no reason why, with proper attention in selecting, breeding, and rearing, the requisite size may not be attained here, and that, too, without any sacrifice of the other valuable qualities of the breed.

Mr. David Bundy has a flock of about sixty long-wooled sheep. They are descended from the Leicesters imported by the same Mr. Adcock who imported the Bakewell cattle. They appear to be a valuable stock, and many of Mr. B.'s are prime sheep.

Dairying.—Otsego county produces large quantities of butter and cheese. We had not the opportunity of visiting many of the farms devoted specially to dairying, but obtained some facts in reference to a few.

Mr. Peter Bundy, Otego, states that he kept ten cows in 1850—three of them were two-year-old heifers. They "came in" as follows: 1st and 2nd, March 25th; 3d, April 10th; 4th, April 14th; 5th and 6th, April 19th; 7th, May 11th; 8th, May 12th; 9th and 10th, May 19th. The whole amount of butter made, was 1720 lbs. Made cheese 19 days—462 lbs.—weighed from the press. Mr. B. says, "Allowing three two-year-old heifers equal to two cows, the dairy would stand at nine cows—allow 2½ lbs. of cheese equal to one pound of butter, and the account will stand at 211 lbs. 10 oz. per cow, besides a liberal use of milk and cream in a family of seven persons."

Mr. Rensselaer Day, Otego, states that he kept eleven cows in 1850, the income of which was as follows:

Sold 1638 lbs. butter for,	$249 81
Made 325 lbs. cheese, worth 7c.,	22 75
Sold four calves in August for,	31 00
Raised three calves, for which he was offered, in December,	36 00
Total,	$339 61

Equal to $30.87 per cow.

Mr. Walter L. Moore, Butternuts, keeps usually from seventeen to twenty cows, the milk of which is used chiefly for cheese, but butter is made in the fall. The average weight of cheese to each cow, for the season, (making the customary allowance of one pound of butter being equal to two and a-half pounds of cheese,) is 400 lbs. It is of superior quality, and a large portion of it is sold at the close of the season at nine cents per pound. Some two-year-old cheese from this dairy, which we tasted, was scarcely inferior to the best we find anywhere.

◆

"Industry and economy will get rich, while sagacity and intrigue are laying their plans."

Memoir of Colonel Timothy Pickering.

(*Concluded from p. 102.*)

It is of Col. Pickering *as a farmer*, that we feel it to be our privilege to speak. This we should not have done, had not our solicitations to others, better qualified to say what ought to be said, been ineffectual.

In 1818, an association of the farmers of Essex was formed, under the name of the "Essex County Agricultural society," over which he was invited to preside. It was done in accordance with the offer of the state for the encouragement of such societies. There is good reason to believe that Col. P. was not ignorant of the movement that prompted these offers. Whatever may have been the origin, it met his entire approbation and active co-operation. He continued thus to preside for a period of *ten years*, until the autumn of 1828, when, he said he felt it to be his duty to withdraw, lest he should be thought to be *in his dotage*—an idea that never occurred to any one but himself. We know not how to express our opinion of the efforts of Col. Pickering, in connection with this society, better than in the language of the address, in 1844. Says the speaker—"I have ever esteemed the hints and observations that fell from Col. Pickering at our meetings, as among the most valuable lessons ever taught to the farmers of Essex. At an age when most men think their labors should be ended, he was in his prime, in handling the plow and instituting new experiments. He was not ashamed to soil his hands or his clothes, in the labors of the field. In whatever he engaged, he took the part of the working man. When he spoke, it was not to display his own acquirements, but to instruct his hearers. While others were admiring his superior wisdom, he, himself, appeared to be the only one not conscious of it. Like Franklin, he always had some illustrations that would not fail to make a lasting impression."

During his presidency, (as it was our privilege to be his secretary,) we can bear testimony that he was scrupulously attentive to all the meetings and interests of the trustees, and of the society; always ready to illustrate by precept and example, his accumulated experience. He loved farming for its own sake, and for the good of his fellow men. He was never happier than when he commanded the listening attention of a group of practical farmers, catching the words of wisdom from his lips,—spoken, as it were, from the inspiration of the genius of sound philosophy. We recollect many instances, when, upon questions incidentally arising, he would go on and talk "like a book," for fifteen or twenty minutes, to the admiration of all around. He had read most that was then valuable of English, Scotch, and Flemish husbandry; his memory was uncommonly retentive; and what was of most value, he thought closely and carefully, upon what he saw and read. He was never satisfied to take any man's *say so*, unless he could be made to understand the reason for saying it.

It may be interesting to notice some of the topics, on which he was accustomed to dwell with special emphasis, connected with the advancement of husbandry in New England. Among these, the improvement of our native breed of neat cattle is entitled to the first place. "I have long entertained," said he, "and repeatedly expressed the opinion, that a fine breed of cattle, peculiarly adapted to the combined objects of the farmers of New England, might be most readily and extensively obtained, by the spirited exertions of substantial farmers to improve our native breed." In support of this opinion, he quoted the late Mr. Lowell of Roxbury, one of the most intelligent farmers in Massachusetts, who said, "Possessing as we unquestionably do, the materials among our own stock, of improving our breeds, by careful selection, we should follow the example of Bakewell and other British farmers, who in fifty years, have raised the stock of Great Britain to a state of perfection little short of what it is supposed they can ever reach." And again, "more is to be expected from the excited attention to the improvement of our own stock, than from importation." Col. Pickering further remarks, with a liberality of opinion, characteristic of himself, "Such improvements of our native cattle, so important to our farmers in general, will also be interesting to those who are possessed of fine imported cattle; for if the latter on full trial, shall be found to be really of greatly superior excellence, improved individuals of our native breed will furnish better subjects for coupling with them; and enable the owners of the imported animals more expeditiously to improve and increase a superior stock,—whether for their own use, or for sale."

A highly interesting disscussion on this subject, was carried on between Col. Powell, of Philadelphia, and Col. Pickering, (see N. E. Farmer for year 1825) in which Col. Powell admits, that the short-horns, so called, are too large for the ordinary purposes of our farms. To whom, Col. Pickering replies, "We now have, in what are denominated our native cattle, a breed exactly adapted to our service, and means of keeping them; and may we not, with spirit and resolution, engage at once, in the laudable and profitable enterprise, of improving this breed, by a careful selection of the best males and females, and thus, in a few generations, raise them, not to gigantic size, but to a high pitch of perfection, for the primary objects of our farmers,—*labor, beef, and rich milk for butter and cheese.*"

The constituents of soils, and the manures applicable to their improvement, were also, with him, favorite themes for discussion. His remarks were practical, not theoretical. He would go on, with great minuteness, stating all the facts and circumstances connected with any experiment, explaining as he went, but never was in haste to draw general conclusions—fully impressed with the truth of the proverb—"one swallow does not make it summer."

The implements of husbandry, too, shared a portion of his attention. From the noble plow, that is at the foundation of all culture, to the simple brush* for the destruction of the meanest insect—none were too large to be above his comprehension; none too small to be beneath his notice. Scarcely a subject can be mentioned, connected with the culture of the soil, that has not been noticed by him. Without presuming to be a writer and maker of books,—he was always thinking—always communicating his thoughts in such a manner as to be useful. In so doing, he seemed to forget himself, and to be moved by a desire to do good. His life was a practical illustration of disinterested benevolence. We remember to have heard from him, addresses to the Essex Society in 1818, 1820, and 1828,* and to the Massachusetts Society in 1823, all of which were published among the Transactions of those years.

There is scarcely a page of the publications of the Essex Society, during his presidency, that is not illuminated by his reflections. If this society has gained any reputation, or been instrumental of any good, it is mainly to be attributed to the impulse he gave it, and to the spirit of inquiry awakened by his advice and exertions. To attempt to condense his remarks, would be but to mar their symmetry, and impair their force. His discriminating observation and comprehensive reflection, left nothing to be added; his classic discipline and fine taste, admit of no retrenchment. We cannot so well express what is proper to be said of his productions, as in the following condensed paragraph of Mr. Fessenden, the learned editor of the N. E. Farmer, when speaking of the address to the Mass. Soc., vol. 1, p. 222. "Although the subjects of the address are not only important, but many of them abstruse, forming what may be styled the metaphysics of chemistry and physiology; still there appears to be nothing in Mr. PICKERING's observations, which is hard to be understood. Volumes after volumes have been written on the food of plants; the elements, or chemical constituents of vegetables; the mode of operation, the manner of applying, and the benefits resulting from the application of lime; the different kinds of earth necessary to constitute fertile soils; the burning of clay for manure; the obstacles which prejudice, and a pertinacious adherence to old usages, oppose to improvements in agriculture; and the best means of overcoming such obstacles; the best methods of accumulating and applying manure, &c.,&c.–but we do not remember ever to have seen so many and so important topics comprehended in even more than double the pages containing Mr. PICKERING's remarks on those subjects. We never read a paper, which, in our opinion, exhibits so much *useful matter* in so *short a compass.*" "We think it should be a subject of congratulation with every friend to his country, that an eminent statesman, and revolutionary patriot, should be induced to exert his influence, and devote his talents to promote the interests of agriculture, the most noble of the sciences, as well as the most useful of the arts." If further testimony is demanded, let the pages themselves be consulted; and whoso shall fail to be convinced, will thereby demonstrate his inability to comprehend.

---

* Col. Pickering's brush for Caterpillars. See his Letter in N. E. Farmer, April 26, 1823, vol. 1, p. 308.

"This brush is made of hog's bristles, introduced between two stiff wires, closely twisted; and being convenient in cleaning the inside of bottles, is probably familiarly known wherever liquors are bottled. For the information of others, I will mention that a piece of wire full one-tenth of an inch in diameter, about three feet long, doubled, and leaving a small loop in the middle, is closely twisted for the length of eight or ten inches from the loop; and then the bristles, being introduced between the remainder of the branches of the wire, and these closely twisted upon them, the bristles are immovably fixed, and thus form a cylindrical brush, about six inches long and two and a half in diameter. To fasten this conveniently to a pole, with a small gouge I made a groove about seven or eight inches long, at the small end of the pole, in which nearly all the handle of the brush was laid, and bound firmly on with three strings."

* In Sept. 1828, Col. Pickering met the trustees of the Essex Society for the last time. This was shortly after the death of his beloved companion, with whom he had lived for sixty years.

If we rightly remember, as early as 1790–5, was the attention of JEFFERSON and PICKERING directed to the formation of the mould-board of the plow, on scientific principles. They thought much and compared their views. Which originated most improvement we will not presume to say. Their object was not so much to secure patents, as to secure improvements. The result was the publication of a new form of structure, with an explanation of the principle of operation. In 1803, Mr. Smith of Pennsylvania, substituted the *cast-iron* for the *wooden mould-board*. Since then a very great variety of modifications and combinations, (too numerous to mention,) some founded on *principles tangible*, and others on *principles imaginary*, have been brought forward. But if we do not mistake, nearly all that is valuable in these improvements, was embraced in the contemplations of these original minds. By so doing, they literally converted the weapons they had so successfully wielded, into plowshares—benefitting the world more than any victories at arms.

Col. PICKERING's mind was so disciplined to accuracy of thought and logical conclusions, that he could not endure with patience, the ill-founded notions and whims, that frequently have a pervading influence on many minds in the community. Illustrative of this, we remember an incident that occurred at one of the meetings of the board of trustees, over which he presided. One of the members of the board, a practical farmer, possessed of more *acres* than *ideas*, had been discoursing, with more ardor than discretion, *upon the proper age of the moon, in which bushes should be mown, that they might not sprout again;* and had specified a certain day of the *first* or *last* quarter, (we do not remember which,) in the month of August, *provided* the moon should be in the right sign, with her horns in right position, &c., &c. The speaker having triumphantly put forth his theory, confirmed by observations for a time the memory of man runneth not to the contrary, calmly waited for others to say amen! "My friends," says the Colonel, "I hope never again to hear from you, or any other member of this board anything, whatever, of the influence of the moon, upon any of the operations in agriculture. I should as soon think of calling in the aid of '*the Man in the Moon*,' to assist in the labors of the field—be they chopping, plowing, sowing, mowing, hoeing, harvesting, or whatever they may be,—as to expect any favorable or unfavorable influences, from the *age* or *position of the moon*. Let me tell you, *that old man*, pictured in the Farmer's Almanac, surrounded with the twelve signs, and as many jaw cracking names, and pierced by as many arrows, has done more harm than all the meteorological prognostications of the most weather-wise calculators, have ever done good. I want such rules only, for labor, in the operations on the farm, as are supported by reason, and are in harmony with common sense." It is unnecessary to say that the gentleman's argument was never again urged in the presence of the president.

He was remarkable for regular and temperate habits—no man more so. This, not in conformity with the fashion or custom of the day—but because of his thorough belief in the utility of such habits. We remember to have heard him say, that he had taken medicine but once, for more than *forty years*. This, he said, was on the day preceding the battle at Yorktown (we think,) when having been much exposed in attending to the duties of his department, he was severely attacked with a feverish affection. A seasonable prescription from an intelligent Scotch physician afforded relief. Ordinarily, abstinence was his regulator of bodily infirmities. Nevertheless, his good sense taught him, that there are exceptions to all general rules;—and therefore he consented to be advised, when he could not do without the advise. "Whenever," said he, "I find my system in the least disordered, I refrain from crowding the stomach, make such external applications to the skin, as tend to correct the inconvenience. In this way, have I kept my system free of all poisonous annoyances." *Abstinence* from everything prejudicial, either to mind or body, was with him a cardinal virtue. On this principle he avoided the *use of tobacco*, and discouraged its use in others.

In the domestic relations of life, were the qualities of his nature most fully developed. Blessed with a companion entirely worthy of him,—chosen in youth, when heart unites with heart by ties irrevocable,—and with eight sons and two charming twin daughters, his home was ever the abode of the best affections. Stern as he might be, in the rougher paths of the world, when mingling with his family, he was gentle and conciliatory almost to a fault. No man loved his family better,—no man ever found his love more cordially reciprocated.

Col. PICKERING was truly a religious man. At all times he seemed to be fully impressed with that most salutary of admonitions—"Thou God seest me." His religion was of that class that moves the *inner man*—and not that which exhausts itself in vain professions. He was strictly exemplary in his observance of all the customs and ordinances of the class of christians with whom it was his happiness to associate; scrupulously careful of avoiding offence to those who conscientiously entertained different views; confident and fully persuaded in his own belief, and ever ready to give a reason for the faith that was in him; still charitable enough to view with favor, all, of whatever name or sect they might be, who honestly and intelligently believed, and lived accordingly. He never pretended to have any religion *to speak of*. Nevertheless, none could have witnessed his venerable form in the church, (where he constantly attended,) at the table of the Lord, without being fully impressed with the text, "Behold an Israelite indeed, in whom there is no guile."

It may be interesting to those who never saw Col. P. to be informed of his personal appearance. This was peculiarly striking. It brought to mind distinctly the notion formed of the old Roman character. In this he was not unlike Gen. JACKSON, for whom he entertained a high respect. He was tall, (six feet at least,) athletic, erect, square shouldered, full in the breast, muscular, and his entire movement marked the perfect man. But above all, his high forehead and prominent brow, with the piercing eye beneath, and the general expression of intelligence about the head, never failed to leave a conviction on the mind, of his intellectual superiority.

This was frequently noticed in his intercourse with the

Indians, at Buffalo and other places in the west, where he was frequently called as Commissioner, to negotiate treaties and adjust difficulties. These rude sons of the forest are not slow in discriminating the traits of character of those with whom they come in contact; and if tradition is to be credited, his influence with them was almost without limit. He had studied human nature in the original—and knew full well how to fit the words to the occasion.

In whatever company he might be, he would not long pass unnoticed. Although there was a sternness in his aspect and manner, still he was entirely free from assumption of superiority—especially when in company with the young, or those who had merit enough in themselves rightly to appreciate his character. But we shall never forget the contemptuous frown with which he looked upon conceited coxcombs, and superficial upstarts. Shuffling and meanness of any kind, were never favored by him. His own honor would not allow him to wink at anything dishonorable. The Rev. Mr. Upham said of him, in a discourse, the Sabbath after his decease—"The feelings of pride, jealousy and suspicion, seem never to have entered his heart. He looked not on the most humble as his inferiors; and never abased himself by flattering the most exalted."

One of the last occasions on which Col. Pickering appeared before the public, was the 4th of July, 1823, at the celebration in Salem; when he took occasion to preface the reading of the Declaration of Independance, with a statement of facts, within his own knowledge, relating to this document, of much interest. We can only say, that he aimed to do full justice to those co-patriots, in the times that "tried men's souls"—Adams and Jefferson—with whom he had been supposed to be in some measure at variance—politically speaking at least,—and with the former, not without cause—thereby showing to the world that he was incapable of cherishing feelings of enmity.

Some have charged him with being under the influence of *strong prejudices*; but those who knew him best, know that he was neither obstinate nor prejudiced. He was a man who thought for himself, and adhered with firmness to opinions deliberately formed. But still he was open to conviction, and ever ready to yield as soon as convinced. But so logical were his thoughts, and so deliberate his conclusions, that he seldom had occasion to yield. Therefore superficial observers called him obstinate.

In April, 1775, when the sons of liberty were first called to arms, at Salem, Col. Pickering was found ready to go ahead as their file-leader. It is not a little remarkable that in April, 1828, forty-three years afterwards, when the friends of freedom were again summoned, with their contributions in behalf of the oppressed Greeks, he should be found to occupy the same conspicuous position. The address, then prepared by him, after a most graphic description of the truly pitiable condition of their sufferings; and of the noble exertions of those genuine philanthrophists, who had periled their lives and fortunes for their relief, closes with these remarkable words, worthy of their own Demosthenes:

"But the misery of the Grecian women and children, and of men enfeebled by age remains. Their relief is the object of this statement. Eloquence is not necessary to persuade. The facts speak to the heart, and it is confidently believed that they will not speak in vain." Imagine the venerable old man, with his intense look, and energetic movement, uttering these words, and even the walls of the temple would echo, Amen.

It must be particularly gratifying to every friend of improvement in agriculture to know, as it is in my power to assure them, that the last public act of Col. P., and the last use to which his pen was employed, was the preparation of a memorial to the Legislature of Massachusetts, for the renewal of the bounty of the State for the encouragement of Agriculture. Thus he lived and thus he died, having passed more than sixty years in the exercise of the highest philanthrophy.

His memory should be held in honor by all who depend upon the fruits of the earth for their sustenance and support. He who had served his country with fidelity and ability, in the field and in the cabinet, retired to his farm, as did his Roman prototype, in the midst of life, before his eye was dim or his strength impaired, and devoted his matured energies to the cultivation of the soil. When such minds can thus find full employment, who will dare say that agriculture is an humiliating pursuit? John W. Proctor.

Progress of Agriculture.

Theories of Agriculture---No. 4.

Considerable advance has of late been made in the *philosophy* of agriculture. Until within a few years, the practice of husbandry may be said to have rested entirely on empirical rules. The subject has now been greatly illustrated by scientific investigation. In vegetable physiology, we have been much aided by chemistry, by which the functions of plants and many of the phenomena connected with their growth and decay have been explained. Analysis has shown the composition of plants and soils—it has shown that each species of plant has its specific food—that the elements which support plants are not uniform in the soil, but that each variety of soil varies in this respect. Thus we discover the principles from which are deduced the necessity of the application of manures, and the expediency of a rotation of crops.

But it is not alone by explaining acknowledged facts, that chemistry has thrown light upon agriculture; it has solved questions, by which practice has been, in some instances, corrected. We are aware that too much has been claimed for chemistry—that some of its enthusiastic advocates have assumed much which would not stand the test of experience, and which is equally at variance with correct science; but this is a result naturally incident to all investigations in their first stages, or until their fundamental priniciples are thoroughly established.

On the other hand, an unreasonable extreme has been run into by the opponents of the application of chemistry to agriculture. For example, an editor of a paper whose leading subject is agriculture, declares that "for a farmer to consult a chemist to aid him in his field, is more absurd than for a smith to look to the wind to know when to temper his tools."* The same editor informs us that nine years have elapsed since he first "invited the public to patronize a paper of a character wholly different from any that had been published since the art of printing was discovered," and that he has "labored hard to please and to instruct." As specimens of these labors to "instruct" farmers, we may take the above remarks, and also his assertion put forth through the same medium, that the *shape* of the plow has undergone no improvement for the last thirty years—that "the only gain in draft is owing to the smooth and hard surface of the plow—land-side and furrow-side; for plows turn the ground over no better now than they did thirty years ago."

Now it seems to us that every farmer whose vision is not blinded by prejudice or ignorance, may have discovered various instances in which chemistry has been of practical utility to agriculture—that it has developed valuable truths which never could have been elicited by practical observation alone. Without the aid of chemistry, it could not have been discovered that phosphate of lime formed one of the constituents of bones, of milk, and the cereal grains. Milch cows when confined to pastures which have long been devoted this description of stock, are liable to a weakness of their frames called the "bone-disease," and their milk is sometimes destitute of a quality essential in the manufacture of cheese. Chemistry has ascertained the cause of those defects, and pointed out a remedy; it has shown that the soil becomes exhausted of its phosphate of lime, so that the herbage does not afford the animals the requisite supply of this important element; and as the same science had shown that bones were composed chiefly of the substance wanting, it only became necessary to apply bones as manure, to remedy the defect of the soil and heal the malady of the animals.

Chemistry has been of practical utility by showing in what consists the fertility of soils, what constitutes the fertilising nature of manures, and what is the specific action of various substances. In this way it has been the means of correcting erroneous practice in compounding manures. Formerly, farmers, without any knowledge of chemistry, were in the habit of mixing all kinds of manure in a compost, without regard to their action when thus combined—apparently on the principle that "too many good things cannot be put together." Lime was often mixed with animal manures, and as chemistry has shown, to the loss of one of the most valuable properties—ammonia. Hence, those who understand the action of lime, have discountenanced its use in manures. Thus, Prof. Johnston says guano should not be mixed with lime,—"because the lime sets free the ammonia contained in the guano, and causes it to escape into the air." He says, also, "quick-lime will in the same way drive off the ammonia contained in liquid manure, and in horse, or farm-yard dung." Another writer observes—

> "Lime is frequently misapplied by being added to farm-yard manure, animal remains, and other substances which are rich in ammonia. As it encourages the decomposition of the structure of animal and vegetable substances, it has been used for this purpose. This is, however, an erroneous practice, as it affects its object at the expense of the most valuable fertilising element, which it dissipates. But practice does not require the aid of lime in the conversion of the remains of animal bodies, of vegetable refuse, and many of the occasional waste substances which contain ammonia, into compost manure. They rot spontaneously with sufficient rapidity."*

The injurious effect of mixing lime with animal manure, may be explained as follows: Lime-stone contains nearly half its weight of carbonic acid. In the process of burning, the carbonic acid is driven off; but the lime has a constant tendency to return to its original condition, by the re-absorption of the property it had lost. Animal manure contains this property—carbonic acid—combined with ammonia. Thus, when lime and manure are mixed, the strong attraction which the lime has for the carbonic acid, causes the latter to separate from the ammonia, and unite with the lime, liberating the ammonia, and allowing in to pass into the air.

Chemistry has also shown that sulphate of lime, (gypsum,) has an opposite effect from common lime, when mixed with manures. The sulphuric acid of the gypsum unites with the ammonia, (which is an alkali,) and prevents its escape. Thus, where caustic lime would produce a loss of the most valuable property of manure, sulphate of lime would save it.

The observance of the principles which have been developed by chemistry, merely in relation to the action of lime and gypsum, as above noticed, might have saved to farmers thousands of dollars, which, for want of this knowledge, have been lost. In this connection it may be mentioned, also, that the science has been of great utility in ascertaining the intrinsic value of what may be called *commercial* manures—as guano, poudrette, &c. It is well known that great deception has been practiced in regard to these articles. Chemical analysis has shown their adulteration, and established their true value; thus enabling farmers to avoid imposition.

Again, chemistry has greatly illustrated and explained the advantages of draining land. True, it could be seen without a knowledge of chemistry, that crops grew better for having the surplus water turned away from their roots; but this science has shown that the presence of an undue quantity of water in the soil, causes the formation of noxious compounds. It prevents the decomposition of vegetable substances, in consequence of which acids are generated, sometimes with iron as a base, which are very pejudicial to plants—the soil becomes *sour.*

Chemistry has detected these acids, shown their nature, how they were formed, how their formation may be prevented, and how they may be destroyed. It shows that draining produces a chemical change in the soil; that the water being withdrawn, and the soil exposed to the action of the air, these injurious acids are dissipated, and the food of plants, which had before remained latent, becomes soluble and available. This is unquestionably one of the most beneficial results of drainage, and yet it is one which chemistry alone could explain.

◆

Feeding Cattle.—Cattle standing in cold muddy yards, exposed to the weather, consume about twice as much as those in sheltered stables kept clean and littered, and free from the accumulations of manure.

---

* *Massachusetts Plowman*, Oct. 5, 1850.

* Morton's Encyclopedia of Agriculture

Ashes of Anthracite and Bituminous Coal.

Analytical Laboratory, Yale College,
New-Haven, Conn., Feb. 25, 1851.

Messrs. Editors—During the past year, several of the students in this laboratory have, at my suggestion, been examining the ashes of our ordinary coals, with a view to the determination of their practical value for agricultural purposes. The analyses now completed are so accurate and so minute, that we are for the first time able to speak positively with regard to coal ashes, and to point out the differences which exist between them and other varieties of ashes. The researches of modern geology have shown that the beds from which at the present day we obtain the various forms of coal, consist chiefly of the remains of an ancient vegetation, which beyond all question, covered large portions of the earth's surface at some period in the earlier history of the planet. This vegetation must have been dense and luxuriant beyond anything that occurs at the present day. Some of the many convulsions and internal *throes* which have altered the position of rocks, upheaved hills and mountains, opened deep valleys, brought up dry land from the midst of the sea, and sunk whole continents beneath its surface again, have overwhelmed this vegetation, and heaped materials above it. which have gradually hardened into rock. Stratum after stratum has thus accumulated, new layers of vegetable growth have even been deposited above the first, by a subsequent growth and subsequent burial. The vegetable masses thus crushed under the superincumbent pressure of perhaps a thousand feet of rock, and exposed to heat at the same time, changed into what we now call coal. The product was either anthracite or bituminous coal, according to the different circumstances of formation, and the different degrees of heat to which the beds were exposed. In the immediate vein of the coal, all traces of vegetable structure are commonly lost, but in the roof of the mine are frequently to be found perfectly preserved stems and leaves, so perfect that the botanical character of the plant can be clearly decided. We are thus able to see, and to feel, on the surface and in the texture of solid rock brought sometimes from a depth of 1600 feet, the forms of that superb vegetation which clothed parts of our globe for centuries, or I may say long ages, before man became its inhabitant.

The formation of these vast vegetable deposits seems to have been one of the means by which our all wise Creator prepared the world for our comfort and sustenance; when we have exhausted in our improvidence the vegetable growth of the surface, we find buried deep beneath all of our present disturbing causes, the organic structures of preceding periods of time, stored away in a form exactly adapted to our uses and wants.

The quantity of coal now consumed annually in civilised countries, may be counted by millions of tons, and is increasing in proportion with the spread of manufacturing, and the extension and augmentation of commerce. If we take any single bushel, or even a single ton of this coal, and burn it, the proportion which remains unconsumed is altogether trifling in comparison with the original bulk, and may seem almost unworthy of note; but when we come to count our tons by the thousand and hundred thousand, this subject of coal ashes begins to expand; and when we consider in this view the immense aggregate quantity which every year must afford, we see that the disposal of them must be a matter of much importance. If the thousands of loads that are annually wasted, contain even a small per cen'tage of substances valuable to our crops, the preservation of these ashes becomes a question of great public interest. That they must contain something, is rendered almost certain when we first ascertain the fact that coal is of vegetable origin; the next point is to inquire how much there is that may be of value to our crops at the present day. It is with the view of deciding this question, at least with regard to some of the principal varieties of coal used in this country, that the analyses herewith given have been made.

The coal was ignited in an ordinary furnace, and the fire, when well kindled, was allowed to burn for nearly a whole day, before any ash was saved; the grate was then well raked out, the ash pit carefully cleared and swept, and the ashes that fell after this were collected. These precautions were taken to obviate all danger of mingling some of the ashes from the wood or charcoal employed in lighting the fire.

The samples for analysis were taken each from several pecks of ashes, obtained in this way.

The investigations with regard to the anthracite ash, were made by Mr. J. B. Bunce of Hartford, Ct., and his results were the product of much careful labor, nearly all of the per centages being the mean of two closely concurring trials. He took fair samples of the ordinary white and red ash coals, and after burning in the way that I have described above, commenced his analyses. According to these, the following table shows the general composition of ash, from the common kinds of coal. That there is a variation in the ash yielded by coal from different veins, I am well aware, but still do not suppose that they are so marked as to materially injure the value of these analyses. I think that they probably approach quite nearly to a true representation of the character of anthracite ashes, and that they may be looked upon as very valuable for all practical purposes.

Each colume of figures represents the constituents of 100 lbs. of ash.

	White Ash.	*Red Ash.*
Insoluble in acids,	88.63	85.65
Soluble silica,	.09	1.24
Alumina,	3.36	4.24
Iron,	4.03	5.83
Lime,	2.11	.16
Magnesia,	.19	2.01
Soda,	.22	.16
Potash,	.16	.11
Phosphoric acid,	.20	.27
Sulphuric acid,	.86	.43
Chlorine,	.09	.01
	99.99	100.11

These close and interesting analyses, afford us much light upon the constitution of coal ash, and enable the chemist who has studied these subjects, to say at once and with confidence that this ash is of some value as a manure, and should by all means be so applied in cases where it can be obtained cheaply.

Of the white ash 3.74 lbs. in 100 were soluble in water, and in the red ash 3.35. Besides this there was a farther and larger portion soluble in acids, amounting in the white ash to 7.58 lbs. in 100, and in the red ash to 8.00 lbs. This latter class of substances cannot be considered as immediately available for the plant; but they will nevertheless gradually decompose and become soluble in the soil, thus affording a constant supply for a long period.

On referring to the table, we see that the greater part of each ash is insoluble in acids: this part consists chiefly of silica, alumina, and iron, and thus the great bulk of these ashes is inactive as a fertilizer; the remainder as we shall find, is of more importance. It will be noticed that the quantity of lime and magnesia taken together, amounts in each case to about 2¼ per cent. A portion of this lime was in combination with sulphuric acid, forming the common gypsum or plaster of Paris. The potash and soda were doubtless chiefly combined with the phosphoric acid and with the trifling quantity of chlorine. The very considerable per centage of soluble silica in the red ash, is worthy of attention as a curious fact.

In looking at the nature of these results, we may draw the general conclusion, that in the ash of anthracite coal, calling these fair specimens, we have in every 100 lbs. from 4 to 8 lbs. of valuable inorganic material, of a nature suitable for adding to any soil requiring manures. This is the perfectly pure ash; as we ordinarily find it there is mixed a greater or less proportion of ash from the wood or charcoal, used in kindling the fires. There is without doubt enough of this, in all ordinary cases, to add considerably to the richness of the ashes. But even if we take them in their pure state, as represented by the above analyses, we can see that they are well worth collecting, and that when applied in considerable quantity they may be expected to produce a decided effect. Indeed I have reports already as to the experience of several practical men, who have used them with much advantage.

An analysis of the ash from bituminous coal has just been completed in this laboratory, by Mr. G. W. Weyman of Pittsburgh, Pa. I do not insert it here, as it is to make its first appearance elsewhere. I may state however, in general terms, that this ash has about the same proportion of soluble substances as the anthracite ashes, but is superior to them in the per centage of lime, and of potash and soda, which it contains. It is therefore also of some importance.

When we consider, according to the above analyses and statements, that in every ton of coal ash that is wasted, we throw away from 100 to 150 lbs. of valuable materials, more valuable by far than an equal bulk of our ordinary manures, we perceive plainly that the farmers have not understood their true interest in letting this waste go on.

These ashes can be applied with advantage as a top dressing on grass land, or as mixed in a compost; they would also be of service when thrown into tanks and hollows, to absorb liquid manures.

Having thus called attention to this subject, it is to be hoped that our farmers who are able to obtain quantities of coal ash, will experiment on a large scale, and add practical to theoretical proofs of its value. Yours truly,
John P. Norton.

DOMESTIC ECONOMY.

Treatment of Scarlet Fever.

The following communication comes from a gentleman, in whose judgment we have entire confidence:

Cleanse the stomach by a mild emetic. such as warm water or ipecac, (but not emetic tartar—it is too prostrating for this disease.)

When the fever rises, wash the patient all over in *warm* water, rendered a little slippery between the thumb and finger, by white ley or sal eratus. As frequent washings will be required,—that is, as often as the fever rises,—a *soft* towel should be used, and very gently, so as not to make the skin sore. On this account, when the skin is thoroughly cleansed, less ley should be used; and if the patient becomes sore, a little rich milk in the water, may be substituted. The feet should also be bathed in *warm* weak ley.

Such washings operate like a charm; and have never failed under my observations, to put out the fever as water puts out fire—for a time; but frequent repetitions will be necessary. A girl in my family, was washed ten times in one day; and a neighbor who was very weak before he came under my care, was washed twenty times in one night. The effect of these applications is most salutary and soothing. I have seen a child of five years old, who was taken from her bed crying and moaning, become playful as soon as she was washed. Another child, on whom the fever had risen high in the night,—was cooled off by the same process in a few minutes.

Warm water is more soothing and agreeable than *cold* water—which (latter) ought not to be applied in this disease, on account of its inducing re-action.

If the throat is much swelled, surround it with a cloth containing hops sprinkled with hot vinegar, and extending upwards above the nose, so that the patient may breathe the fumes. Volatile liniment,—made by turning *aqua ammonia* into sweet oil in a phial and shaking it well,—may also be applied round the throat, to irritate the skin as a rubefacient.

The *strength* of the patient should be most carefully preserved, hence neither *bleeding* nor *strong cathartics* are admissible. Some indeed, live through such improper treatment, because scarlet fever is one of the most variable diseases in regard to intensity: on some being very light, and on others very severe. The more urgent the case, the greater is the danger from bleeding. *The patient has not one drop of blood to spare*—no more than he would have in typhus; and strong purgatives are scarcely less improper. Only the mildest cathartics, like tamarinds, should be employed; but as elder-flower tea is both sudorific and aperient, in most cases no better medicine need be sought.*

After the fever has ceased, children often become pale and bloated; and a near neighbor lost a fine boy under the care of a regular physician, when the disease seemed over and past. In all cases however that have come to my knowledge, a dose of calomel when given, has roused them from that torpid state, and they have rapidly recovered.

Be very careful for many days after, not to take cold.

---

* Decoctions of slippery elm, catnep, or sage, may be used where elder-flowers are not to be had.

Stewed Apples.

Some people think stewed apples more wholesome and better flavored than preserves, and I am one of the number, though much depends on the kind of apple. The *Fall Pippin* for instance, though so excellent, is inferior in this respect; neither is the *Spitzenburgh* nor the *Bellflower,* equal to some others, for none of the three, are quite clear of an unpleasant tang. We have found two sorts however, which are very superior, and I will name them.

The *Red Astracan,* as one, ought to be better known, and every freeholder ought to have a tree near his door. It is of strong growth, and bears every year. It is among our earliest apples, and begins to color, and may be used, when only half grown. It is remarkable for its pure flavor. Where this fruit can be had, I should think the *Yellow Harvest* which ripens about the same time would not be stewed.

The *Belmont* is another very superior kind for this purpose. It is also of rapid growth, comes soon into bearing, and bears abundantly. It is a first rate "*hand apple,*" as our old neighbor used to say—in other words, a fine table fruit (uncooked;) but its flavor when stewed is unsurpassed. To the purity of the *Red Astracan,* it adds a spiciness of its own.

There is a vacancy in time however, between the ripening of these fruits; but I hope that experiments to be made the ensuing season, may discover other excellent sorts. D. T. *Greatfield,* 1 *mo.,* 1851.

◆

White-wash.—Take two quarts of skimmed milk; two ounces of fresh-slaked lime; two pounds whiting; or the same proportions for any large quantity. Put the lime into a stone vessel, and pour upon it a sufficient quantity of milk to make a mixture resembling cream; then add the remainder of the material. When this is done, crumble and spread the whiting on the surface of the fluid, in which it will gradually sink. It must then be well stirred, or ground, as any other paint. By the addition of any coloring matter, you may make it suit your fancy. It must be put on with a paint brush, and when dry, a second coat should be given. The quantity named, is sufficient for twenty-five square yards.

Preparations of Barley.

Moulded Barley:—6 oz. of pearl barley, 3½ pints of water, and sugar. Steep the barley for an hour; drain it, and pour the water boiling upon it, let it stew quickly in the oven in an earthenware jar, covered, until perfectly soft, and all the water is absorbed. When about half enough, add the sugar, and essence of lemon, to the taste. Pour it into a mould, previously dipped in cold water, and let it stand to set. When boiled quickly, the above quantity requires 2½ hours, and is a much better color than when it is longer in preparation. When the barley flour is used, no steeping is required.

Barley Soup:—3 oz. of barley; 1½ oz. of stale bread crumbs; salt, and parsley. Wash and steep the barley for 12 hours, in ½ pint of water to which a piece of carbonate of soda (the size of a pea) has been added; then pour off the water not absorbed, and add the crumbs of stale bread, 3 quarts of boiling water, and the salt. Digest these in a salt-glazed covered jar, in the oven or (boil them slowly in a well-tinned covered pan,) for from 2 to 4 hours, adding the chopped parsley and a little pepper, 30 minutes before the expiration of the time for boiling.

Barley Water.—1 oz. of pearl barley and 2 pints of water. Boil the barley in the water till it is reduced to 1 pint; then strain, and sweeten, flavoring with the essence of lemon, rind of lemon, raisins, or currant jelly. Although the additions to the barley water render it more agreeable, they, however, lessen its diluent properties.—*Vegetarian Messenger.*

ANSWERS TO INQUIRIES.

Name of Apple.—S. S. D., Meriden, N. H. The apple which you received under the name of "Washington Strawberry," may be the Late Strawberry, of which Thomas gives the following description: "Late Strawberry. (Syn. Strawberry, Autumn Strawberry.) Size medium; roundish, slightly conical, sometimes faintly ribbed; nearly whole surface with small broken streaks of light and dark red; stalk slender, about an inch long, basin ribbed; flesh yellowish white, slightly fibrous, very tender and juicy, with a fine, very agreeable, sub-acid flavor. Young trees of remarkable thrifty growth, leaves sharply serrate, which at once distinguishes them from the crenate leaves of the Early Strawberry. Ripens early in autumn, and often keeps till winter. Very productive. One of the best early autumn apples."

Loss of Manures.—M. E. O., Galesville, N. Y Fertilizers are wasted both by leaching or washing, and evaporation. That they are carried off to a great extent by the former mode, may be seen by an examination of the water which runs from fields just after rains. It is evident, also, from the rich deposit which is left by streams, and the general fertility of alluvial soils. The substances which promote fertility in soils, are more or less soluble, and hence may be taken up and carried away by water. The *organic* portions are capable, besides, of assuming an æriform state, and may be taken up by the atmosphere. The nitrogenous portion of manures, (ammonia,) which is, perhaps, their most valuable property, is very volatile, and readily escapes into the air when not covered or combined with earthy or carbonaceous matters. It is also easily dissolved by water, and when the soil is unduly saturated, may be taken away by the liquid. (See Cultivator for 1848, p. 284.)

Hedge.—W. P. B., Coxsackie. The Buckthorn will be the "easiest and quickest raised, and most durable," and it will "keep fowls from entering." You can buy two-year-old plants at most of the nurseries at $5 per thousand, and seed may be had of the seed-dealers at $1.25 per quart. The plants should be set in a double row, or two rows, six inches apart, and a foot apart in the rows, which will require 32 plants to a rod, or 2000 to 1000 feet. (See Cultivator for 1850, pp. 68, 69.)

Animal Offal as Manure.—T. H. C., New Albany, Ind. We think the best use which could have been made of the "sheep's heads, hogs' feet, kidneys, and plucks," would have been to mix them in a heap with the "creek mud and forest leaves," together with strong, unleached wood ashes, at the rate of one bushel to five of the animal matter. The strong decomposition which would follow, would completely dissolve the flesh, skin, &c., and render many of the bones so soft that they might be easily pulverised sufficiently to be applied to the soil.

The mud and leaves would absorb the gases. The compost will be very strong, and should be applied with caution till it is ascertained how much the crops will bear. It should be slightly buried, but kept near the surface. Night-soil may be mixed with muck at the rate of one load of the former to three of the latter. It should be mixed several weeks before being used. It is most properly applied to grain crops; it is unsuitable for potatoes and culinary vegetables generally.

Draining-Tiles.—T. H. C. We know of no point nearer you than Waterloo, in this state where these tiles can be had. Mr. B. F. Whartenby of that place can supply the various sizes.

Mulching for Potatoes.—C. D. S., Junction, Ill. We should think the effect of covering the ground between rows of potatoes, with straw or coarse stable manure, would be favorable to the crop. It would tend to keep the soil moist, and at a more equable temperature than if it were exposed directly to the sun. Our course would be to hoe the potatoes, carefully, as soon as they were fairly above ground, and then spread over the litter. If it was laid three inches thick, it would probably prevent all growth of weeds for the season, and would supersede the necessity of any further cultivation.

"Live Forever."—J. F. G., New Baltimore, N. Y. We do not know the plant to which you allude under this name, and therefore cannot advise as to the "most expeditious way of eradicating it." Please send a specimen of the plant.

Locust for Timber.—S. H., Amenia, N. Y. The yellow locust, (*Robinia pseudacacia*,) is the best for timber. The seed may be planted either in spring or fall. If in the former, it is best to soften the hard covering of the seed by pouring hot water on it, which will greatly hasten germination. If planted in fall, this is not necessary, as the frost will produce the same effect. Make drills, three feet apart, and drop the seed about as thick as you would bush-beans, covering to the depth of two inches—keep the plants clean from weeds. They may be transplanted to the plantation the second or third year. The seed is for sale by Emery & Co., at $2 per pound.

Red Cedar for Hedges.—G. M., Lowell, Mass. Mr. James Wilson of this city, has the plants suitable for transplanting.

Michigan Sod and Subsoil Plow.—C. W. C., New Durham, Ind. This plow is for sale by Prouty & Mears, Boston, Emery & Co., Albany, and Newell French, (the proprietor of the patent,) Rome, N. Y.

Pond Mud.—D. S. O. This would probably be useful in improving your sandy soil. Your best way will be to apply several loads by spreading it on and incorporating it with the soil, next fall. You will see by the result whether it would be an object to apply more.

Mill for Grinding Corn and Cobs.—D. S. O. Sinclair's corn and cob-crusher, cost, $35 to $40, according to size, with extra cutters and plates. It is for sale by R. Sinclair, Jr., Baltimore, and Emery & Co., Albany.

Mineral Paint.—G. A. H., West Stockholm, N. Y. You will find an article on this subject in our volume for 1849, p. 379. W. H. Starr, 67 Beekman street, New York, is an agent for the sale of this kind of paint.

Curious Machine.—M. K., Fond Du Lac, Wis. "Has the inventive genius of Yankeedom, yet produced a machine that will thrash, grind cob meal, and cut straw—two-horse power, and costing not over $100 altogether?" We *rather think* not, but if any one knows of such a machine, let him speak.

Sandy Soil.—A. C. C., Spencer, Tenn. The clay, pounded bricks, and the muck taken from your "mountain bog," of which you speak, are good substances to apply to your sandy soil. Your stable manure would do better made into a compost with the muck and clay, than applied by itself on such soil. The "chips and dirt from the wood-house" we think would not be worth the carting on the land you describe.

Plan for Stable and Carriage-house.—A. C. C. We would refer you to our volume for 1844, pp. 282, 385, and the volume for 1846, p. 31.

Gypsum.—D. S. O., Clarion county, Pa. We are unable to refer to any analyses which would show the difference in the Nova Scotia and Genesee plaster; but by an experiment on a small scale, you could readily ascertain their relative value for your purposes.

Straw Cutter.—W. E., Jonesboro, Tenn. As a cutter for straw or hay, we know of nothing superior to Hovey's. Its price is from $8 to $25, according to size—latter for horse-power. For cutting and mashing large cornstalks, Wheeler's is an excellent article. Price $27, for horse power.

Grass for Sandy Loam.—W. E. We should think the orchard grass (*Dactylis glomerata*) and perhaps the Kentucky Blue grass (*Poa pratensis*,) if your soil is in tolerable condition, might do as well as any with you.

Destruction of House Rats.—W. S., Lahaska, Pa. Rats may be decoyed by various substances, and induced to enter traps set for them. The oil of rhodium and oil of anise are used for this purpose by professional rat-catchers. Dr. J. V. C. Smith of Boston, states that he has used these substances with advantage. He states also, that ground plaster or gypsum, mixed with dry meal, will be eaten by rats, and that it will *set* in the stomach and kill them.

Corn Planter.—W. S. "Is there a machine for planting corn with accuracy?" Emery's will plant it with sufficient accuracy, unless you want it in rows *both ways*. W. D., Quakertown, Pa. Emery's machine is generally preferred in this section for corn, broom-corn, &c.

Dairy-house.—D. A. L., Bethel, Vt. You will find some good suggestions in relation to the construction of such a building, in Mr. Craig's communication in our March number. For description of the best modes of butter-making, practiced in this state, see Cultivator for 1848, pp. 207, 271—also for 1850, pp. 169, 170.

Bone-mill.—L. B. A., Dorset, Vt. We do not know of a cut of such a mill. Should we find one that we think would answer the purpose, we will publish it.

Seed Corn.—J. W. W., Montgomery county, Pa. We should think the Vermont improved Canada, the Red Blaze, or the Early eight-rowed White, all of which could be had of Emery & Co., of this city, would, if planted "from the first to the twelfth of May, mature in time to be taken from the field and put in shocks by the first of September;" and if the ground was in good condition and the crop well cultivated, there would be no difficulty in obtaining fifty bushels to the acre.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

The Kitchen Garden.

As often as any one visits our horticultural exhibitions, he cannot fail to be as often struck with the fine appearance of the vegetables, their large size, and succulent growth. Here, with the thoughtless, the interest ends; while others naturally ask themselves, "why do not the products of my garden—now small, tough, and stringy,—grow like these?" This is a very profitable inquiry, and we shall endeavor to answer it in some of its particulars.

To have good vegetables, the first, and usually by far the most important requisite, is a *good soil.* To keep a free and succulent growth during our hot summers, it must be *deep,* so as to form a magazine of moisture, by absorbing like a sponge all the rains that fall, and retaining them till wanted in time of drouth. This a shallow soil cannot do, neither can it allow that full and free extension of roots so essential to large and vigorous growth.

Whenever a garden soil is deficient in these two great qualities, as most are naturally, it must be improved by artificial means. Whatever may be its character, the first thing is to have it thoroughly drained, unless it should happen to possess the very unusual merit of needing no draining. Ditches are best laid with tile manufactured for the purpose; but where small surface-stones are plentiful, they are quite as economical, and at the same time it is useful to the land, to use them instead. But here great caution is needed to prevent the soil from settling or washing in among them,—a very common evil. It is prevented by covering the surface of the stones with pebbles, or small flat stones, or more easily with slabs if they can be cheaply obtained. Being excluded from the air, they will last a long time, especially if the wood be of any durable kind. We have never found them to fail in preserving ditches, even where the soil partook strongly of the character of quicksand. They are covered well with straw or inverted sods before the earth is shovelled in.

To deepen the soil, first use a subsoil plow to mellow its texture to a depth of a foot and a half, or if possible two feet. This will admit the trench-plow, (that is, a large common plow in a previous furrow,) to a depth which could not possibly be attained without subsoiling, and will serve to mix the parts together and to work in the manure, to such a depth as to manufacture a deep bed of rich garden earth. The depth could not be reached without the subsoil plow, and the manure could not be worked down without the trenching; and it may be useful to alternate them, two or three times before the work is done in the best manner. Where the garden is so situated that a team cannot be introduced, the improvement effected will well pay for the cost of trenching by hand.

Soils are very often either too heavy or too light. When too heavy, they may be rendered lighter by working in coarse manure, chip-dirt, and straw, in connexion with carting on sand. The latter may seem a slow and costly operation; but as the sand thus applied always remains, it only requires a few annual dressings to effect a great and permanent improvement. We have seen heavy soils, which were always either hard and cloddy, or else unfit to work from their plastic adhesiveness, made fine, rich, crumbling, and fitted exactly for gardening, by burning the earth. This was done by first making a fire of such coarse knotty wood and vegetable rubbish as could not well be used as fuel within doors, and then as soon as it began to burn well, to throw on earth gradually, so as to keep it half smothered, till the wood was consumed. This was done at the dry season, and when a large portion of old turf was thrown on the fire, with some brush or vegetable rubbish, a great deal of earth was burned with very little fuel. This burnt earth, scattered over the ground, had a great and very permanent effect; and there is probably no cheaper or more effectual way of mellowing as well as enriching heavy soils.

When the soil is too light, it may often be made just right by mixing up with it the subsoil. If the under soil is not clayey, carting on an annual dressing of clay will in a few years effect a great improvement.

It sometimes happens, that old, long-worn garden soils, may be strikingly benefitted by subsoiling and trenching; the surface above and the marly stratum immediately beneath, constituting a mixture of precisely the kind wanted. In other cases, the application of lime and ashes will prove excellent on old gardens.

A great saving may be effected in the cost of *cultivating* kitchen gardens by the use of the plow and cultivator, wherever they can be so laid out as to admit the labor of a horse.

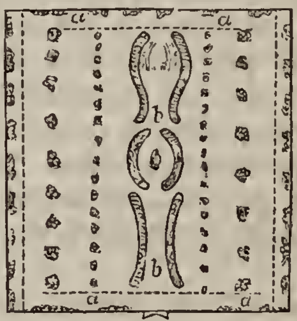


Fig. 1—Kitchen Garden for horse culture.

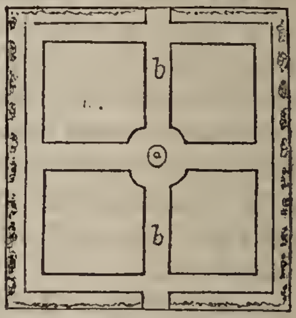


Fig. 2—Kitchen Garden laid out into quarters.

In the above figure, (Fig. 1,) we have endeavored to show an arrangement for this purpose, where dwarf fruit trees, currant and gooseberry bushes, &c. are planted in continuous rows across the garden; the crops of vegetables being planted between, and the whole cultivated by a horse, which turns about at the ends on the spaces or alleys, *a a.* The flower garden and ornamental part occupies a strip at the centre, on each side of the alley *b b.* If desired, this part may be wholly omitted. Fig. 2, shows the more common way of laying out kitchen gardens into *quarters,* where, it will be observed, horse labor cannot be introduced.

There are a few of the smaller vegetables, as radishes, lettuce, &c., which cannot well be worked with plow and cultivator. For such, it is best to have one single narrow bed extending across the garden. For many of the larger vegetables, the space allotted to the improved mode will give a better growth than the common way of planting them in thick beds. For example, asparagus, when thus given plenty of space, will attain more than double the growth acquired with ordinary cultivation.

There is another matter of economy which will be obvious as soon as named,—that is, placing the kitchen garden as near to the stable as practicable, so that there will be no temptation to omit the copious application of manure at the right moment.

◆

Suckers from Fruit Trees.

There is a general impression that suckers of fruit trees are less valuable for stocks than seedlings—possessing, it is alleged, less vitality, and exhibiting a stronger tendency to the reproduction of suckers. My experience on this point has been neither very long nor extentensive, but as far as it goes, I doubt both of the above assertions.

The plum, cherry, quince, gooseberry and currant, eminently, and the apple and pear, to some extent. seem *designed* to continue themselves in this mode, as well as to reproduce themselves from seed. The same thing is true of a great many other fruits and flowers. whether produced by woody stems or herbaceous plants. As a philosopher, I would hesitate hastily to question such an arrangement of nature, as unwise, since it is so eminently cheap and useful. We have now in this. Oneida county, the Bleecker plum, (the Lombard of Downing,) by the thousand, not one of which, so far as I know. was propagated either by bud or graft. And yet this tree is as thrifty and hardy as a burdock in an old barn-yard. The same remark may be made substantially, of other kinds of plums. That a seedling possesses a higher degree of vitality than a bud, graft, or sucker, is perhaps philosophically true, especially when the latter is from an old tree; but when taken from a young tree, the difference may be so slight, as practically to be neglected.

Again, the assertion that a sucker exhibits a superinduced tendency to the reproduction of suckers, is in accordance neither with science nor facts. A seedling tree—root and stem—is one homogeneous system. The original stem, standing centrally upon its roots, and a sucker, standing, it may be, four feet distant from the same tree, and based on one of its extended horizontal roots, can hardly be supposed to differ in constitutional tendencies. The *parent* tree has sent up this sucker, and thus manifested *its* inherent tendency; will the *sucker* be likely to do either less or more? But let us investigate the main allegation above alluded to—that *suckers exhibit less vitality than seedlings.* A standard seedling tree, is found from examination in the autumn, to exhibit at the collar, below it, or upon some extended root, a small bud or buds. In the succeeding spring these buds throw up shoots of vigorous growth, dependent, for the time being, on the parent tree. In the latter part of the same season, but sometimes not until the succeeding one, such a sucker forms a collar, just beneath the surface of the earth, from which it throws out in regular order, an abundance of horizontal roots. Soon after this, the tap-root that connects with the parent tree, and which, for the time, had been its sole radical dependance, becomes nearly obliterated. You have now, at the end of the first or second year, a perfect tree, whose sucker origin cannot be inferred from anything in its appearance. Its origin in a little bud, on the healthful root of a young tree, may have combined as much vitality as would be involved in its origin from a seed borne by the top of the tree,—certainly as much as would be found in a bud or graft from the same tree. In this case you have the advantage, moreover, if the tree were a valuable variety, of its propagation upon its own roots. There may be cases in which a tree, valuable for its fruit, has always exhibited a feeble or imperfect root. In such cases the variety should be extended by buds and grafts set upon healthful stocks. There is another consideration. A tree, even when well situated in regard to climate, soil and position, will usually exhibit greater hardiness, and more abiding health of root, than of stem. Mechanical accidents, insects, and the influence of unfavorable seasons—one or all, may seriously damage the stem, while the root remains in comparative health. In this case, the renewal of the tree by heading back, or by propagating it from sprouts already existing, is a matter of obvious propriety. It is, I think, a statement of Loudon, in his Encyclopedia of Gardening, that the English nurserymen, who cultivate hardwood trees, frequently head back young trees, once and even twice, before they get a stem that is healthful and vigorous. Indeed, nature herself, often does this, throwing up a stout side shoot or sucker, to supercede the parent tree, where disease or accident had injured it.

It may be farther observed, that many trees, propagated by buds and grafts, exhibit imperfect adaptations to the new stock. Here the union is never quite perfect and healthful. Now this difficulty is avoided by the propagation of such trees by suckers. Nay, farther, a difference of season of maturity, or chemical character of circulation, frequently exists between the stock and the budded or grafted top, so that the fruit is defoliated before it is ripened, in consequence of the earlier maturity of the stock; or its fruit injured by the astringent character of the sap of the same stock. It were clearly better to use natural suckers of a good variety, than to propagate it on such stocks. In conclusion—I infer that it is safer to follow nature in all cases, where she prompts strongly to the continuance of a variety by suckers; and that, therefore, there is no objection to the use of suckers, as stocks for buds and grafts, simply on the ground that they *are* suckers; and that, though in particular cases, suckers may exhibit less of vitality and shapeliness than seedlings, their general utility is not affected by that origin. The method so much resorted to in Europe, of propagation by *layering*, is analagous to propagation by suckers, though obviously a less natural, shapely, and healthful mode.

Suckers, if removed before they form collars and horizontal roots, are almost in the state of cuttings, and will often die, or dwindle for two or three years, before they recover and grow rapidly. Hence they should not be removed until well supplied with horizontal roots. Suckers, too, that spring up in a well cultivated soil, will make much better trees than those which spring up in neglected positions. Suckers sometimes come up in close bundles. It is then always best to thin them out to two or three, since otherwise, they cannot root well, or, if they do, cannot be separated safely. C. E. G.

Utica, Jan. 27, 1851.

Fruit Prospects for 1851.

The progress of vegetation in 1850, in the case of the peach, plum and grape, was probably unfavorable in its bearing on the prospects of fruit for the present year.

Peaches were greatly injured by the "curled leaf," in June, 1850, the fruit being nearly all destroyed, and all the early shoots incurably dwarfed. The shoots that must bear the fruit, if any, this year, started late, and did not mature very well in the autumn. My fear is, that the buds had less vigor than usual to meet the severity of winter. A considerable number of buds are yet alive, enough, perhaps, for a fair crop; but whether they will be sustained though the remaining vicissitudes of winter and spring, we cannot tell.

Plums were defoliated extensively by the hot, damp weather between July 14th and Aug. 21st., while yet the fruit was not mature. Hence, I am lead to fear a feeble state of its fruit buds, though my experience in these matters does not enable me to anticipate confidently.

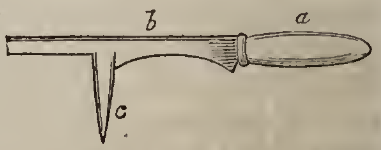
Grapes were severely injured, at the same time, and in the same way, as plums were. Much of the fruit never matured, in consequence of the defoliation occasioned by the mildew. When trimmed, in October, many vines needed cutting back nearly to their old wood, so immature was the growth of the season. Grafts set in April, that had made a growth of eight feet, were frequently cut back almost to the stock. I fear, therefore, the buds of next spring will start weakly, at least in many places. C. E. G. *Utica, Jan.* 25, 1851.

◆

On Grafting.

As the season for grafting is approaching, a few remarks upon that subject may be acceptable. There is no kind of labor which brings a richer return than a few hours spent in grafting. And at the present time there is no difficulty in obtaining scions of the most approved varieties, gratis, or at a rate merely nominal. The best scions for grafting apple trees, are obtained from the last year's growth, on the points of bearing limbs. Some grafters take scions of two years growth, under the impression that the grafts will bear one year sooner, but I would not recommend the practice. Many of the buds appear to lose their vitality, and the growth is apt to be irregular and unthrifty. The scions may be cut any time during February or March, and placed in a cellar with the butts upon the ground where the air will not strike them. In grafting apple trees, I have been the most successful, in cutting the scions about the fifteenth of April, and setting them immediately. Grafting wax may be made in the proportion of 2½ lbs. rosin, 1 lb. tallow, and ¾ lb. of beeswax. When melted together it should be poured into a tub of water, and the operator, after rubbing his hands with tallow, should work it over till it becomes tough, and light-colored. If it should be too sticky, more beeswax may be used. Some grafters omit the tallow, and use in its stead, a small quantity of linseed oil, poured into the kettle after the rosin and beeswax are melted. If the weather should be cold at the time of using, the wax may be softened by placing it in a kettle of warm water, or holding it over a lantern with a candle burning in it. The tools necessary for grafting are—a back-saw, set wide enough to run easily through the limb, a grafter's knife and wedge united, to split the limb and hold it open till the grafts are set; a small mallet, and a thin bladed pocket knife, with which to sharpen the scions. Probably the best time for grafting apple trees, is from the 15th of April to the 10th of May. If the grafting is to be done in May, the scions should be cut earlier in the season. As the operation of split grafting is easily learned by a few minutes observation of the process, I need not go into the details. The outside of the wood in the stock and scions should exactly correspond.

In grafting an orchard, many farmers set a large number of limbs in the middle of the top, leaving many of the lower branches to be lopped off as the new crown increases in size. It would be better for them to distribute their favors more equally over the tree, and thus secure the advantages of greater space, air, and light—and finally more abundant bearing.



The annexed figure represents a very convenient grafting tool for splitting the stocks in orchard grafting—*a*, the handle—*b*, the blade—*c*, the wedge—*d*, the head to knock it out with, after the grafts are set. The whole need not be more than 9 or 10 inches long, including the handle. D. D. *Geneva, March*, 1850.

◆

Northern Fruit Trees.

Eds. Cultivator—In the last volume of the Cultivator, p. 395, is an article from the pen of S. W. Jewett, on the adaptation of southern trees to a more northern latitude, which appears to me to be calculated to mislead the unwary, and therefore to require some notice.

The writer admits that—"fruit trees of most kinds taken from nurseries along the sea-board, and replanted in Vermont, have, in most cases, met with ill success." But he adds—"the fact is now *well established*, that those trees re-set in these parts [Addison county] which were propagated in the nurseries on the banks of the Hudson, *are hardy and thrive better than most of the trees from our nurseries*."

On what authority this statement is founded, except the single case of Mr. Hunt, who, it seems, is engaged in selling trees from southern nursuries, the writer has not informed us. I apprehend the matter has not been sufficiently tested to become a well established fact, that trees reared on the banks of the Hudson are better adapted to our climate than those of our own raising. The *admitted* fact that trees brought from the sea-board—from a climate only a little milder than that of the banks of the Hudson, meet with ill success, seems sadly to conflict with the *other* fact so "well established."

Now, the writer will not probably deny that the reason of the almost universal "ill success" attending trees brought from the sea-board is, that being reared in a milder climate, their texture and habits are not such as to adapt them to our higher latitude: and if there is any stability or uniformity in the natural laws, this reason holds good in all cases where trees or other plants are removed from south to north, just in proportion to the difference in the temperature of the climate; that is, a tree brought from Newburgh, Hudson, or Albany, is as *really* affected by its removal from a milder to a more rigorous climate, as one brought from Long-Island or New Jersey; but only in proportion to the change of climate to which it is subjected. In order to prove that there *is* a decided difference in climate, between the banks of the Hudson and lake Champlain, it is only necessary to refer to the fact that Chestnuts, Peaches, Nectarines, Apricots, Quinces, the Catawba Grape, and several other kinds of fruit, flourish and mature on the Hudson, while they will not succeed in Addison county, except in some peculiarly favored spot, and with special protection and care.

If it is a fact, as stated by S. W. J., that some of the trees from the south, which have come under his observation, "*thrive better than most of those raised in our nurseries*," the cause must be sought elsewhere than in the change of climate, for *that*, as has been shown, is against them. When our own northern nurseries are able to supply trees of as vigorous growth, as fine appearance and of as choice varieties as are brought from southern nurseries, and *I trust that day is not far distant*, it will require no uncommon share of Yankee shrewdness to decide which will be preferred for northern orchards. ROW'D T. ROBINSON. *Ferrisburgh, Addison county, Vt.*, 1st *mo.* 18, 1851.

◆

Cuttings from Suckers.

Peach trees, headed down for the development of the bud, and Quinces under all circumstances, frequently throw up suckers close to the parent stem. These if removed from the old stock with clean cut, will grow with great facility.

It is not worth while to do this ordinarily with peaches, certainly not where stones are to be had. But with Quinces it is otherwise. Such cuttings from the latter will make twice the growth the first season that will be made by an ordinary cutting taken from the top of the tree.

The reason obviously of this superiority lies in the fact that the stump of the cutting, having been formed below the surface, is more disposed to throw out roots than a cutting all whose growth had been above ground.

Indeed, in the case of quinces you can frequently take off suckers with roots already formed.

I have not tested this method with suckers from the pear, apple and plum, but analogically I have no doubt of similar success.* C. E. G. *Utica, Jan.* 24, 1851.

◆

TIMBER OF THE DEODAR.—It appears that the timber of the Deodar cedar, (the most elegant perhaps of all evergreens, and which now sells at so high a price in this country,) is of the most durable character. Among the Himalayas, its native localities, the trunk sometimes attains a size of ten to twelve feet in diameter; and an instance is recorded where the timber was taken from a temple supposed to have existed at least 1000 years, as sound in appearance as when placed there.

NEW PUBLICATIONS.

AMERICAN JOURNAL OF SCIENCE AND ART.—The number of this able and valuable journal for March, contains several interesting communications, among which are the following: Velocity of the galvanic current in Telegraph wires; by B. A. GOULD, jr. Mineral Springs of Camden; by T. S. Hunt. Whirlwinds produced by the Burning of a Cane-Brake; by A. F. Olmsted. Notices of coal in China; by D. J. McGowan. Limit of Perpetual Snow in the Himalaya; by Lieut. Strachey. Analyses of the Ashes of certain Commercial Teas, communicated by Prof. E. N. Horsford. The work is conducted by Professors SILLIMAN and J. D. DANA, aided in chemistry and physics by Dr. WOLCOTT GIBBS. Published in New Haven on the first of every second month, at $5 per year.

HARPER'S NEW MONTHLY MAGAZINE.—We have received the number for March, for which it is sufficient praise to say, it equals its predecessors. The first portion comprises "Spring," by Thompson, with fifteen very beautiful illustrations. With the usual variety of contents, the number closes with a humorous chapter from Punch, appropriately illustrated. Published monthly at $3 a year, by HARPER & BROTHERS, 82 Cliff street, New-York.

LOSSING'S PICTORIAL FIELD BOOK OF THE REVOLUTION—No. 11 of this work, relates particularly to some of the first scenes of the revolution, such as the battles of Lexington, Bunker Hill, &c. The illustrations are of the highest order of merit, and the general execution of the work is deserving the highest praise. Published by HARPER & BROTHERS at twenty-five cents a number, each number containing forty-eight large octavo pages.

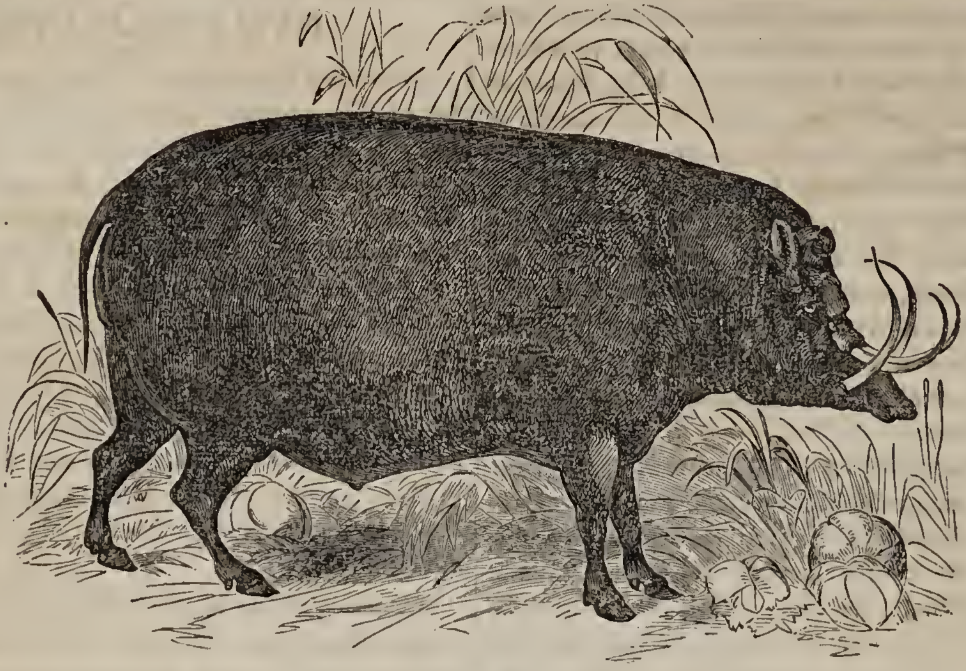
THE FARMER'S GUIDE.—We have received No. 15 of this excellent work, by HENRY STEPHENS, author of the *Book of the Farm*, assisted by Prof. J. P. NORTON. It is the most thorough work on agriculture which has been published. New York: LEONARD SCOTT & Co., 79 Fulton street—twenty-five cents per number—the work to be completed in 22 numbers of 64 pages each.

NEXT SHOW OF THE ROYAL AGRICULTURAL SOCIETY.—The next show of this society will be held in Hyde Park, London, in July next, during the exhibition of the great World's Fair. The Council of the Society has decided on the details of the prize-sheet, of which the following schedule represents, summarily, the divisions and the respective amount of prizes assigned to each:—

Short-horn cattle,	£215
Hereford cattle,	215
Devon cattle,	215
Longhorn cattle,	40
Channel Islands breed,	40
Sussex breed,	40
Scotch horned cattle,	45
Scotch polled cattle,	45
Welsh, Irish, and other pure breeds,	40
Horses,	270
Leicester sheep,	170
South-downs and other short-wooled sheep,	170
Long-wooled sheep (excluding Leicesters,)	85
Sheep best adapted to a mountain district (excluding Southdowns,).	50
Pigs,	130
Total,	£1770

---

* A success proportioned to their susceptibility of being grown from cuttings, which all know to be far less than in the case of quinces.



THE BABIRUSSA

The Farmer's Note-Book.

The Babirussa.

The group of animals termed *Suidæ*, or the hog family, comprehends several distinct genera, one of which is the Babirussa, the animal represented by the above cut. It is the only known species in the genus. Its native country is the Indian Archipelago, from which it has been occasionally taken to various European countries, but has never been fairly reclaimed from its wild state, though specimens have been kept for several years in menageries and museums. The animal resembles the hog in its habits, and its flesh is said to be good for food. Martin observes—

"Though allied to *sus*, [hog,] the Babirussa is distinguished by certain peculiarities, one of which is the upward direction of the alveoli of the upper tusks or canine teeth; these tusks in the male, are enormously developed, as to length, and are extraordinary both in their form and position. They do not pass out between the lips, as in the hog, but cut through the skin of the snout, so as to appear like horns growing in an unusual situation. Instead of being stout and strong, they are slender, and rising vertically, curve backwards with a slight indication outwards, so as to form part of a circle, and often touch the skin of the forehead. The tusks of the lower jaw are sharp and powerful, and emerge from between the lips; they bend upwards and outwards, and are sufficiently formidable weapons. The upper tusks are wanting in the female, and the lower are small. The incisors are four in number in each jaw. The molars are five on each side, above and below."

◆

Improved Ornamental Fence.

Eds. Cultivator—Enclosed I send you an addition to the already numerous plans for good fences, which like laws, to be serviceable, should be efficient, durable, and cheap; in order to secure these three qualities, many circumstances must be considered. The situation of the farm, the relative cost of different materials, the convenience for working them, &c. If there be plenty of timber on the land that would make rails, and so situated as not to be valuable for other purposes, an efficient, durable, and cheap fence may be made of rails; but if the land be free from timber, and have a plenty of stone scattered over the surface, a good stone fence would possess the three requisite qualities in a high degree. Should the land be free from both timber and stone, a board fence, such as is described in the fifth vol. of the Cultivator on the 156th page, if cedar posts and boards should not be very expensive, may possess the above mentioned qualities,—but in the absence of all these conveniencies, such a fence as is described below, and represented in the accompaning diagrams, will possess the desirable qualities in a high degree. Picket fences are well known to be the most efficient, but their durability, when constructed wholly of wood, has not been such as would warrant the expense, therefore they possess but one of the above qualities. There are three kinds of picket fences contemplated in the cuts, all having iron posts. (See Figs. 1, 2, 3.) Where large cobblestones are conveniently situated on the land, they may be placed about sixteen feet apart, on the line of the proposed fence, about half buried in the earth, and the iron posts drilled into them, and either wedged, cemented, or run in with lead. (See Fig. 4.) When quarried stone are more convenient, blocks may be split out about three feet long, set in the ground about two feet, and the iron

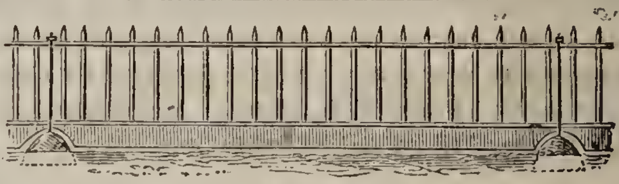


Fig. 1.

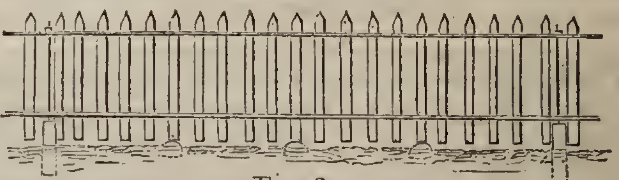


Fig. 2.

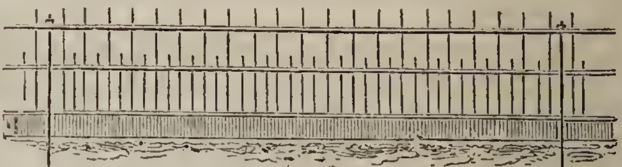
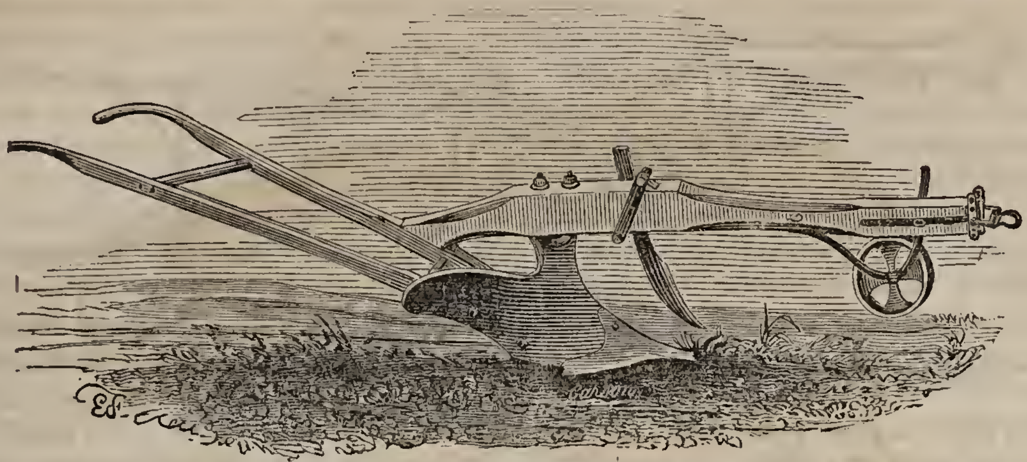


Fig. 3.



W. U. Chase's Amsterdam Plow, No. 7,

Which received the second premium for light soils, at the trial instituted by the New-York State Agricultural Society, June, 1850. It is manufactured by Mr. Chase, with various other sizes, at Amsterdam, N. Y. For particulars, see report of the committee on the trial referred to, in our columns for 1850, pp. 324–330—also *Transactions* of the Society for 1850.

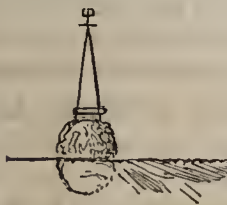


Fig. 4.

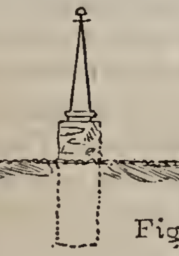


Fig 5.

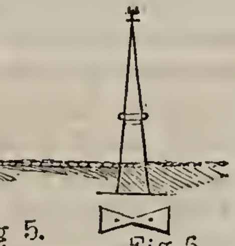


Fig 6

post drilled into the top, as represented in Fig. 5. The third kind is where no stone is convenient; the iron post is then set into a cast-iron plate, represented in Fig. 6, which plate should be about two feet long, and buried below the surface about six inches, which makes a very permanent post, unless the land is subject to heaving by frost; in such case the plate should be buried deeper.

Fig. 1 is a view of a fence supported by posts of small iron, round or square, about half of an inch in diameter if square, and five-eights of an inch if round; the manner of constructing the posts is shown in the cut, so plain as to require no further description. The square pickets are put through round holes, as shown in Fig. 7, which also shows the manner of fastening the iron posts to the lower rail, by square staples driven round the iron into the wood; Fig. 8, shows the manner of putting paling through the rails instead of square pickets.

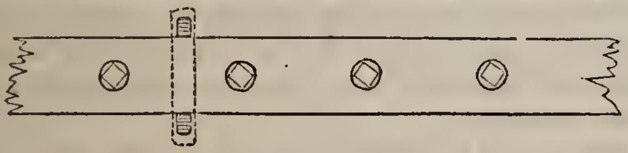


Fig. 7.

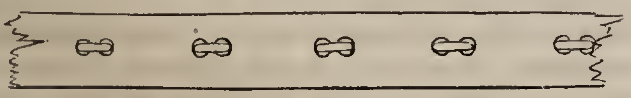


Fig. 8.

Below are estimates, showing the relative cost of fences of stone and iron posts, and posts all iron,—the wood work not planed. About sixteen cents a rod may be saved by letting the pickets or paling go through the lower rail to the ground, and dispense with the base-board.

Cost of picket fence with base-board, (Fig. 1.) per rod—

20 feet 1¼ inch lumber, at $7.00 per M.	$0 14
16 feet 1 inch lumber, at $5.50 per M.	16
5 lbs. iron, at 8 cents per pound,	40
1 stone, say,	25
Expense of constructing,	30
Total,	$1 18

Cost of pale fence, without base-board, (Fig. 2.) per rod—

15 feet 1¼ inch lumber, at $7.00 per M.	$0 11
20 feet ¾ inch lumber, at $5.00 per M.	10
5 lbs. iron,	40
1 stone, say,	25
Expense of constructing,	30
	$1 16

Cost of three rail and double picket fence, with all iron posts, and with base-board, (Fig. 3,) per rod—

25 feet 1 inch lumber, at $5.50 per M.	$0 13
17 feet 1¼ inch lumber, at $7.00 per M.	12
7 lbs. wrought iron, 8 cents per pound,	56
9 lbs. cast iron, 3½ cents per pound,	32
Expense of constructing,	20
	$1 33

Cost of a picket fence, with all iron posts, and with base-board, per rod—

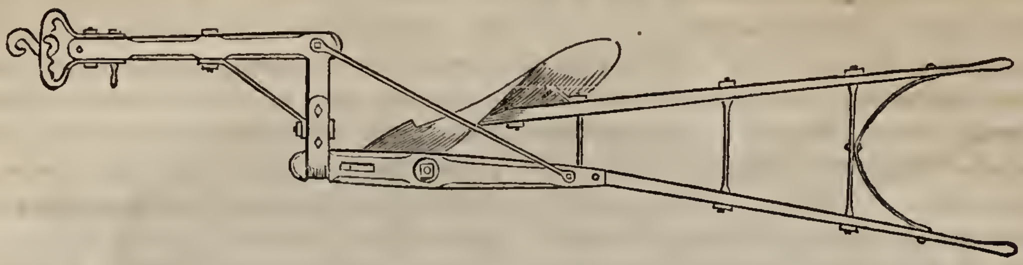
20 feet 1¼ inch lumber, at $7.00 per M.	$0 14
16 feet 1 inch lumber, at $5.50 per M.	09
7 lbs. iron, 8 cents per pound,	56
9 lbs. cast iron, 3½ cents per pound,	32
Expense of construction,	20
	$1 31

The above estimate must be varied to conform to the place and circumstances attending the construction of the fences. If required to be constructed by hand labor, the last item in each estimate should be doubled, at least, but if water or steam power be used, with proper conveniences, and materials are procured as estimated, the cost will not exceed the estimates.

Iron posts of this construction, have never been in use to my knowledge, but square pickets have been put through round holes in the rails, for a number of years, to great advantage. Dean. *Lyonsdale, N. Y, Feb. 8.*

◆

Great Products of Wool.—Mr. Nathan Cushing, of Woodstock, Vermont, recently deposited in the White River wool depot, 490 fleeces of well washed wool, which weighed 1,754 pounds, and sold for $764.34. The extra sold for 46 cents, the fine 43¼ cents, and No. 1, 41½ cts., No. 2, at 40 cents. Average sale by the fleece, $1.91. Mr. Bridge, of Pomfret, deposited 332 fleeces, which weighed 1,447 pounds, which sold for $616.32, the different qualities bringing prices of the first mentioned lot. *Vermont Journal.*



HORTICULTURAL PLOW.

"Horticultural Plow."

The above is a cut of a plow, which we are informed was invented by Mr. John Wilkinson, Principal of the Mount Airy Agricultural Institute, Germantown, Pa. It is described as follows:

"The purposes for which this plow is designed, are for tilling among trees, and along fences, particularly thorn hedges. By shifting the front beam, which turns on an axis, fromed of the front end of the main or stationary beam, this plow may be made to run after the near or off side animal of the team, as desired, thus without the least difficulty, enabling the plowman to perform good and straight work as close to the fences or trees as he desires.

"Any ordinary plow that is adapted to sward plowing, and even one that is considerably worn, will, when altered, by attaching the shifting beam, answer well for this purpose, as its use will not be required but little, compared with other plows; hence a plow considerably worn, will do as well as any. The shifting beam is attached to the stationary one, by framing into it, at right angles with it, a piece of timber of the same size, about ten inches long, with a semi-circular groove cut into it at the other end, so as to fit it to the stationary beam, to which it is attached by means of a piece of band iron, 3 inches wide, and ¼ inch in thickness, around the round part of the beam prepared for it. There are two braces of ½ inch round iron, one above and the other below, attached by the same bolt, at the back end of the shifting beam, from which they extend back to the main beam near the handle, where they are again attached by a bolt, which is removed when the beam is to be shifted, and the braces are brought back to a line with the shifting beam, when the beam is turned to the opposite side, and the braces again bolted to their place."

◆

Seed Potatoes.

Eds. Cultivator—In communications in the November and January numbers of The Cultivator, on the subject of seed potatoes—the first by Mr. Murray, of Ohio, the other by Mr. Gold of Connecticut—it is claimed that those of the smallest size are equal if not superior to large ones, for seed. Now this is a subject, as Mr. Murray says, of great importance to the farmer; for if from small and indifferent seed, can be produced fair and large potatoes, as he remarks, it is time it was known.

There is no crop the farmer raises, that requires so much seed, or the seed of which costs so much to an acre, as potatoes—ranging from eight to twenty bushels—the difference being one quarter in large or small seed; or if it takes sixteen bushels, which is about the average of fair sized potatoes, to plant an acre, the same might be done with four very small ones, making a difference of twelve bushels—no small item at present prices, or fifty cents per bushel, which would be six dollars in favor of small seed in planting one acre.

Not doubting the correctness of either of your correspondent's statements, for I have heard similar ones, from respectable sources, I still am in doubt as to any good resulting from the practice; on the contrary, my experience and observation having led me to a different conclusion. For six years I have planted both large and small seed—sometimes from necessity, but have always carefully noted the difference, which has been uniformly and decidedly in favor of large seed.

I will specify two cases. In the spring of 1849, I planted two acres of potatoes, a portion of which was planted with small seed. Where I planted large seed, I had good potatoes, but where the small seed was planted I had very small, poor potatoes—the whole being new ground.

The past season I planted the same number of acres, but reserved a quarter of an acre, which I planted with small seed from the size of a walnut up to that of a hen's egg. The result was as all former crops had been with me, they were all small and worthless, besides being more affected by the rot than where large seed was used.

The difference in the vines, was perceptible as far as my potato patch could be seen. Those vines where I planted small seed, being not half the length of the others, besides having a slender and sickly appearance from the time they were out of the ground till they were harvested.

The ground had laid in pasture and meadow for forty years, never having been plowed before. I think the principle holds good of selecting the best of seed for raising potatoes, as much so as for corn, wheat or any crop raised on the farm.

Not doubting but good crops may have been raised, occasionally, from small seed, yet were I in want of seed, and had to buy, I would make three times the difference between large or small potatoes. J. Van Denburgh. *Jamesville, N. Y., February*, 1851.

◆

Agricultural Reading---Root Culture, &c.

Eds. Cultivator—There is no doubt that agricultural reading is a stimulus to agricultural enterprise. The success of one prompts others to effort; but in order to insure success, there must be an appreciation of the circumstances which were conducive to success in the undertakings of others. Difference of soil or of season, or both, may lead to entirely different results. Therefore a man in reading in your journal of large crops, should not always calculate that his labors will be invariably rewarded with a bountiful harvest.

The Cultivator, from the first to the present volume, has come to me with the monthly contributions of its editors and correspondents, affording a rich entertainment to the mind—furnishing fresh stimulus to effort and improvement, and, I was about to say, I should as soon think of dispensing with the *plow* as The Cultivator. Why, they go as naturally together as the man with the plow; and as the plow needs his guidance and skill, so the man needs others' experience and wisdom to guide him.

Roots, Deep Plowing, &c.—I have always calculated to have a good supply of roots for winter—viz: ruta-baga, or else flat turneps; and have found them of great value. Six to eight hundred bushels of the latter to the acre can be raised with a little pains. I always take land that has been plowed the previous year, (say in corn or potatoes,) plow it *twice at least* the same season, before sowing. After last plowing, dress the land with 18 or 20 waggon-box loads of fine manure to the acre; drag it in thoroughly; with a light plow turn the surface into ridges two feet apart—make the top of the ridge flat and smooth, which even boys can do with expedition, when the land is in right condition, i. e., *mellow*. I sow about 25th July; not allowing the plants to be very near together—say from 4 to 8 inches, according to richness of soil. Two thorough dressings with cultivator and hoe will give the crop a good start of the weeds. The longer they remain in the ground without freezing solid, the sweeter the turnep and the longer it will keep; and the faster they grow, the fairer they are and the less wormy and less liable to be pithy. Manure makes the turnep crop. I have had them so large that the *fourth* turnep could not be got into the half-bushel—have had them weigh 7 lbs. and sound and sweet. The flat turnep is better for cows than the ruta-baga, because it does not give so strong a flavor to the milk, and it gives out no odor in the cellar.

Last season I was determined to try carrots in a small way. The ground was a moist loam, fertile, and with a slope to the south. A part I had cultivated with ruta-bagas two years in succession, (bad husbandry you may say,) because the first crop had not realized my expectations; but the second was from fair to inferior. After the middle of May, it was dressed with long manure (say 20 loads to the acre) and plowed once with Moore's plow—largest size—*driving the plow almost to the beam;* one man bearing his whole weight on it. Of course the horses had to do their part by the hardest. In order to destroy the weeds, the ground should have been plowed twice; but a backward, wet season, an unprecedented amount of work in repairs and building, and my unavoidable absence, prevented. So the weeds, having grown to such a height, could not be effectually buried with the plow. The ground was then thoroughly raked, smoothed, and cleared of every weed that we could find, and marked for the rows, one foot apart, calculating to have plants as near as one inch, and thin them to three or four inches apart; but was afterwards advised to let them all grow, and did, except as some were unavoidably pulled up in weeding—which was done by hand twice, using only the hoe. There was a third weeding; but the work was chiefly done at intervals. About the middle of November, the roots were dug. After trying successively the spade, dung-fork and pick, I resorted to the crow-bar; taking two rows at a time. One of us plunged the bar under the roots at one end of the row, prying them out, while the other grasped by the tops all that were loosened, drew them out and threw them on the ground in ranks.

This embraces substantially the whole process of culture. I enjoined upon the young man who assisted me, to keep an account of the bushels—having measured the capacity of both baskets with the half-bushel. The crop was 87 bushels, on ground (as measured with the ten foot pole) 44 ft. by 88 ft, allowing six inches outside the rows on the 4 sides of the piece—making 14¼ rods (within a fraction) and yielding at the rate of about 976 bushels per acre. This I call a good crop; but do not always expect as good, and intend to try again.

The question may be asked what are carrots good for? Cows when fed with them and corn fodder, well cured, (I always cut mine early and close to the ground,) give the sweetest milk and butter; rivaling in color, richness and flavor, that made on the sweetest grass. For horses, nothing is better—one of mine will eat them *sooner* than oats, grow fat on them and work too.

Last summer, in an effort to drain a wet piece of ground, I dug a ditch through a piece that was dry barren gravel; underneath which was a hard-pan. When the drain was finished, the land was plowed and sowed with buckwheat. Over the drain no manure was put; but the buckwheat was there as "heavy as it could stand," both in wet and dry ground, while on each side it was hardly a foot high. The season was very wet. Francis Whiting. *Great Barrington, Mass.*

The Cayuga Lake.

BY DAVID THOMAS.

The vapors that rise from large bodies of water, have great influence on the temperature, imparting a portion of their warmth to the cold winds that blow over them, and thus lessen the severity of winter. A correspondent suggests that from this cause, the mercury is sometimes 10 or 15 degrees lower in Wisconsin than on the opposite shore of *Lake Michigan;* and this difference may often account for the preservation or loss of the peach crop, when the blossom buds have been *started* untimely. I remember in 1816, when I traveled in the Western States, that the trees were in bearing on the southeastern shore of the *Ohio*, where the cold northwesters had been tempered by the vapors of that river, but none bore on the opposite side; and the same view explains why the district south of *Lake Ontario*, is so favorable to this fruit, while none succeed on its northern shore.

Another curious circumstance connected with the history of our lakes, is the effect of deep water in resisting the formation of ice. It has been said that the water which is chilled at the surface, descends and displaces the warmer portion below, till the temperature of the whole mass is greatly reduced, and *then freezing commences.* Certain it is however, that the shallow parts of our lake are the first to freeze.

From *Long Point*, 7 miles up the Cayuga Lake, *a line north of west*, separates the deep water on the south. Over the northern part, varying from 12 feet deep at the Bridge, to nearly 30 in the deepest places, the ice regularly forms in winter,—while south of that line where the water suddenly deepens, it generally continues open. When I came to reside in this county (46 years ago,) some of the *first settlers* said that opposite to Levana, the ice had never been more than "a thin skim," breaking up in the course of the day; and I am not aware that any exception to this rule had occurred previous to 1832,[*] when a number of persons passed over the ice from Aurora into Seneca county.

The *continuance* of cold as well as its *intensity*, is deserving of consideration. One severe night in the 3d month, produces much more ice than one equally cold in the beginning of winter. The descent of heavy snows into the lake, also prepares it for freezing.

In regard to the DEPTH of this lake:—More than fifty years ago, J. L. Richardson of *Auburn*, (late First Judge of the county,) informed me by letter, that he had taken soundings opposite Levana, making its greatest depth 250 feet; and Dr. John Gridley (who has given me many other particulars,) stated that in 1826, he found the greatest depth of the lake opposite to Aurora, 282 feet. These measurements show a dip to the south of nearly 16 feet to the mile. It is well known that the *dip of the strata* is in that direction; but whether the Hamilton Group was excavated down to the limestone below, and that these measurements give the true dip, can be only conjectural, though it seems not improbable.

The State Geologist[†] of the Third District, has said that the greatest depth of this lake is 396 feet; but the name of his informant, the extent of examination, and the point in the lake, are not given.

◆

Feeding Stock---Large and Small Animals, &c.

Eds. Cultivator—I have lately been reading the State Agricultural Society's Transactions for 1849, which I only got some two weeks ago. To the discussions at Syracuse on Sheep farming, I have paid particular attention, and I am surprised to see men of intelligence, and men of science, prefer one breed of sheep to another because they are *small eaters*. I have been a feeder or keeper of sheep and cattle from my youth, and I never saw an animal pay for his keep, if a small eater. I mean everything I have on my farm to eat heartily, and then I think I have a fair chance for *pay*. The Saxon sheep with me, would not eat enough in cold weather; but would stand in the most sheltered places in the yards or under the sheds, while the Merinos, would be at their racks eating with a good appetite. Consequently, the Saxons would get poorer, while the Merinos were getting fat; and I long since discontinued keeping Saxons—they are not adapted to our climate, at least such Saxons as I have been acquainted with. They have not wool enough to keep them warm. Besides, their pelts are as thin as paper, while the right kind of Merinos have pelts almost thick enough to make water proof boots.

I notice, also, that those gentlemen, or some of them, think that their sheep eat according to their size. I have heard it said, ever since I can remember, that every animal but man, ate according to its size; and this was said, too, by those who were thought men of knowledge; but I am fully convinced that they were under a mistake. It is not easily tested in sheep, but in my stall-fed cattle I have tested it beyond a doubt, and I do say, (without fear of contradiction by practical men,) that I can fat a steer that will weigh 800 lbs. of beef, with as little feed as I can fat one that will not weigh over 500 lbs., and in nine cases out of ten the former will gain much faster than the latter. Everything depends on the natural propensity of the animal.

I am now fatting steers, as usual. I feed 42 this winter, and 110 wethers. Of my steers, 34 are fat, and sold to go off next Monday. They are 4 years old this coming spring, and very fine. The others are younger, and I shall keep them till summer. I shall soon buy in another lot to have fat in June, or early in July. By doing so I make immense quantities of manure and get a fair market price for my corn and hay. I buy and feed some oil-cake, besides.

I think there are not so many cattle as usual fatted in this section this winter, as many lost by them last year, and so far, what have been sold will scarcely pay their cost and keep, but the value of the manure is *incalculable*, especially on wheat growing farms.

Experiment in Feeding the Seed of Pigeon-weed.—I made an experiment in feeding pigeon-weed seed, ground fine, to cattle. I selected two steers, one apparently a good feeder, the other rather hard in the hide with coarse hair, and, as I thought, the worst feeder I had. Those two I commenced feeding with four quarts of meal of Pigeon-weed, (alias red root, alias steinkrout,) per day. They eat it well, and gained. I increased it to six quarts per day; they still eat it, and did well. I thought it cost me nothing, and I increased it to eight quarts each per day; they still eat it for a few days, when both refused to eat the same morning. I removed it from their manger, and gave them a very little corn meal, which they eat in the course of the day.

The same day they both commenced purging, and continued so for two days. I offered them no meal of any kind until the purging stopped. I then commenced with four quarts of the pigeon-weed meal to each per day, and continued at that and no more, and they are now fat—both being about the same fatness. Therefore I would put it down for a certainty, that cattle can be fatted on pigeon-weed meal, with from four to six quarts per day; but that eight quarts *must not be fed*.

Now these two cattle were in a lot that I fed myself, during the whole time, with the exception of the week just past.

Eradication of Pigeon-weed.—By the by, I believe I have found out an easy way of exterminating that pest of the wheat growing farmers of western New York, (pigeon-weed,) and that is by planting the ground with Indian corn two years in succession. It has succeeded on a 28 acre field of mine. But I have long known that a man had to follow up some experiments by more than one trial to make sure of the result. I am going to follow up this one, straight forward.

---

[*] In that year, Christopher Morgan, senior, (father of our present Secretary of State,) made the following memorandum, which has been obligingly furnished by one of the family:

"February 27, 1832. The Cayuga Lake was frozen over on the 26th. Six persons crossed over from Aurora to the opposite side of the lake on foot. On the 27th, five persons chained across from the Stone Store House, and found the distance to be 268 chains and 36 links," *i. e.* equal to 3 miles and 113 rods. Previous to that time, some trigonometrical attempt had made it 4 miles and 80 rods!

[†] The late Lardner Vanuxem.

Shelter for Manure.—I notice a great deal is now said and much written, about keeping barn-yard manure under cover. Now this is what I have been experimenting upon for over 20 years, and I am fully of the opinion, after many trials, manure is not any the better for being kept under cover, and I think decidedly worse, if it is to be immediately applied to potatoes or Indian corn.* I do really wish that some thorough, working, practical men would test it fairly and give their opinion through The Cultivator. I know that men of practice are seldom writers, and more seldom speakers in public meetings; but I would rather have the opinion of one thorough, experienced farmer, than the opinion of ten theorists. I know scientific men, or some of them say, what may answer my farm, may not answer my neighbor's a mile off; but barn-yard manure answers for all land that is dry, in all places and all countries I ever saw or read of; and the farmer can always have plenty of it if he manages right; but he must not feed his cattle and sheep at straw stacks through the winter, with nothing else. Would you believe that in this *famous* county of Seneca, you may see fine thrifty steers, in the fall, that ten bushels of corn meal and less than a ton of hay would make fit for the butcher, or for New York or any other market, turned to a stack of straw, or more often a *heap* of straw, without any other shelter, there to do the best they can. I have seen them eating a tunnel through the stack of straw; and when the spring thaws come, some have had both cattle and sheep smothered.

Still some of those farmers, lay up money. If they are penurious in feeding their cattle and sheep, they are generally penurious in other things, and if their cattle or sheep bring them little, they feed them nothing that they could sell, and what they get they *keep*.

There are farmers, and those who own good land, too, that turn all their cattle and sheep on the highway through summer, and some will even buy young cattle in spring and turn them on the highway through summer, and after harvest, give them a run on their stubbles until winter sets in; then turn them to the straw stack or heap. A great many sheep are kept in the same way.

I am well aware that the most of your correspondents give a flattering account of the improvement of the farming community. I firmly believe that there is a great improvement within the last ten years, but still a great many farmers go on as I have represented, and yet lay up money. If their wheat should only average them 12 or 16 bushels per acre, they raise it with their own labor, and like their stock it is almost all gain. If I happen to tell some of them that they should feed their sheep something better than straw, they will say, that their sheep will compare favorably with mine, yet some of those who formerly fed nothing but straw to their cattle and sheep, have changed their course, and now have as fine cows and sheep as any man has, and it would be much to the credit of our country were every farmer to do so. John Johnston, *near Geneva, Feb.* 12, 1851.

P. S.—I have not yet finished threshing my last crop of wheat, but know that it will average over thirty bushels per acre. I have now a little over fifty acres on the ground, that I expect a large crop from. With the exception of six or eight acres, it is thoroughly tile-drained, and otherwise in good condition.

Hussey's Reaping Machine.

Eds. Cultivator.—I observe in a late number of your journal, a statement from Mr. McCormick, with regard to his reaping machine; also one from another person respecting my reaping and mowing machine, which seem to have been in response to an inquiry made in a previous number of your paper. As that inquiry did not come under my observation in proper season, I was deprived of the advantage of making a parallel statement. Believing, with others, that I was not fairly represented in that correspondence; as the statement made for me by your correspondent did not refer to machines made by myself, or to such as are made with the improvements of latter years, I wish to make a few remarks.

Without troubling you with arguments, I will confine myself to stating a few facts. My reaping machine has been in successful use fifteen years. The patented improvements of latter years have increased its value as a reaper, and made it a mowing machine. It has driven from the field east of the Alleghany mountains every other reaper; for this fact, I will refer to all the prominent planters in lower Virginia, and the Shenandoah Valley, and of every other place where other reapers have had time to become known. Another striking fact is this: hundreds of mechanics in the western states are now infringing on my present patent right, in getting up machines to go by other names, while infringments on the other inventions for reaping are scarcely known. I will not boast of making a very large number of machines; the extent of my business has heretofore been to fill orders.

Another fact is this: by recent improvements my reaper has become a mowing machine. James Clark, of Lasalle, Ill., in a published letter, says he has cut 400 acres of grass with one of my machines in the last harvest—200 of meadow and 200 of prairie. I will take the liberty also to refer to Edward J. Eno, of Berlin, Sangamon county, and to Saml. Thomas, of Green county, Illinois, and to John Cockey and John Merryman, of Baltimore county, Md., and could refer to hundreds of other farmers for its merits as a mowing machine.

As regards the cutting of lodged grain, I will refer to matter already published, the signatures of responsible and disinterested farmers, instead of making any statement of my own.

---

* There may be some points in connexion with this subject, that our correspondent has overlooked. For instance, it is sometimes the case that manure kept under cover is over heated, and much of the valuable part burned out. To settle the question fairly, the sheltered manure should be kept sufficiently moist and cool to prevent waste. If all the circumstances were properly attended to, we cannot doubt that the result of the experiment would be in favor of the manure which was protected from the air and rains. Eds.

Morris Sleight, of Dupage county, Ill., says—"We went into a piece of Black Sea wheat, a part of which was nearly flat on the ground, and lying in all directions; I had no idea it could be cut by any machine, but to my astonishment, Mr. Hussey's machine cut it as free and easy as if it had been standing up."

Rev. C. D. Eltinge, of Kane county, Ill., says "Mr. Hussey's machine worked in wheat very badly lodged, where the ground was rough, yet it cut it all clean."

When farmers have failed to cut their lodged grain with my reapers, it has generally been owing to a want of practical experience with the right kind of machines. I am not satisfied that the merits of my reaper should be judged of, and its character established by the operation of any machine not built at my manufactory in Baltimore. Many reapers are passed off for "Hussey's," to my great damage in several parts of the country.

One of my reaping and mowing machines, made in Baltimore, is now on board the St. Lawrence, on its way to the World's Fair in London. Obed Hussey. *Baltimore. Feb.* 14, 1851.

◆

Not Giving Credit.

Eds. Cultivator—In your February number, you charge us with publishing a series of articles under the head of "Village Lectures," "as original," in the American Agriculturist, which "first appeared in the English Agricultural Gazette."

If you will please to turn to page 340 of our November number, for 1850, where we commenced the publication of these "Lectures," you will find the following prefatory remarks:

"We insert from the London Agricultural Gazette, the following and *succeeding*" [this last word was not originally italicised] "Lectures on Scientific and Practical Agriculture, which from the simplicity of the language in which they are expressed, and their general utility to the farmer, we trust will be acceptable to a large portion of our readers."

If the above does not give ample credit,—and that of a highly flattering kind—to the source from which we took these lectures, then we do not know what credit is. But you will doubtless add, that this is not enough, and that credit should should be attached to each succeeding number copied. In this we entirely agree; but as we do not read the proofs of such things, we did not observe this omission till the January number of our paper was published. We then directed credit to be given to the Agricultural Gazette, in all subsequent numbers, at the bottom of the article; and the reason it was not done in our February number was, that the person who superintends the matter of the Agriculturist, was taken ill, and it was then left to a third party who was ignorant of our directions. No one can be more scrupulous in giving credit than we are; and although our own publication has been *general plunder* for the agricultural press of the country for the past nine years, and the above English or London Agricultural Gazette—in whose favor you here volunteered championship—has occasionally been one of the number; still we do not believe any periodical in the United States, is less open to a charge of not giving credit than ours; and whenever this has been omitted, it was without the knowledge, and totally contrary to the wishes of the editors.

Yet the Cultivator itself is not guiltless of the charge it prefers against us. If you will turn to volume 5th, page 171, you will find a continuation of the article on the "Manufacture of Cheese," by Mr. Alonzo L. Fish, which is taken from the N. Y. State Ag. Soc. Transactions, and appears there in the Cultivator as *original*, and without the slightest intimation whatever of its being copied from another work.* We could specify several other articles published in the Cultivator, from time to time as original, which were copied from other sources, but we do not think this worth while, as we have no doubt it was inadvertently done, and at the time escaped the attention of the editors; who we are happy to say, are more exact in giving credit for articles which they republish from other sources, than any other conductors of the press with which we are acquainted; and we will moreover add, that the Cultivator, like the Agriculturist, is general plunder throughout the Union, to the great disgrace of the conductors of agricultural and other periodicals and papers, who habitually pilfer as unscrupulously as if the property were all their own. Editors of the American Agriculturist. *New York, Feb.* 6, 1851.

◆

"Wool and Gum.'

Eds. Cultivator—I noticed in the January number of your journal, an article under this head from a correspondent, suggested by your notice of sheep in Addison county, Vt.

In the breeding of sheep, I believe it is most advisable to pursue a medium course, in relation to the oily matter so natural to the wool of Merino sheep. I consider an excess or deficiency of this material, equally objectionable. There can much be said in favor of sheep that produce fleeces well supplied with oil of the right sort; but there seems to be no definite term to express the different kinds of oil, yolk or gum. I should choose sheep whose fleeces abound in what I should term transparent oil within the fleece, and flowing to the end of the staple, and there forming what might be called yolk, or gum, which by combining with dust, gives the surface of the wool a dark look. There can be no doubt that such oil and yolk, preserves the fleece from "dead ends," and the deleterious effects of stormy weather—that it greatly facilitates the growth of the wool, and much increases its strength, softness, and elasticity. And I believe there can be no doubt that manufacturers would prefer a fleece well supplied with the oil and yolk which I have described, after it was thoroughly washed, to a dry fleece with "dead ends," as they acknowledge that the wool from oily sheep, is manufactured with much less waste—is easier worked, and will make handsomer and more lasting cloth, than the wool of sheep quite destitute of oil. But there is another kind of gummy matter, quite different in its appearance and effects from the above. This may be observed in yellow, thick, pitchy particles within the fleece, and does not circulate freely to the end of the wool; consequently the fleece has a light colored surface with "dead ends;" and as the wool cannot be freed from this thick, adhesive gum by a common cold water wash, such fleeces will show a larger per cent of skrinkage in cleansing, than any others.

---

* On turning to the article here referred to, we find it prefaced as follows: "(*Mr. Fish's Essay, concluded from page* 154)." On turning to the first part of the article, we find it introduced by the following words. "At the January meeting of the New-York State Agricultural, Society 1848, Mr. Alonzo L. Fish, of Litchfield, Herkimer county, received a premium of fifty dollars for an account of experiments made by him in the manufacture and management of cheese. Mr. F.'s valuable essay (as it may be called) is embodied in the elaborate report of the committee appointed by the society to examine the claims of competitors under this head, and will be found in the volume of *Transactions* for 1847, when published. We think the following extracts from Mr. Fish's remarks will be read with advantage," &c. Eds. Cult.

I dislike light colored Merinos, very much, and have never yet seen any with as fine and perfect wool as can be found in the best wooled varieties with a dark surface. I believe dark colored Merinos that are free from this thick, yellow gum within the fleece, are more highly appreciated by well informed wool-growers at the present time than formerly. I sell from 30 to 35 yearling bucks annually, and I find, that when other things are about evenly balanced, the best judges of sheep select those with a dark surface.

I send you samples of wool from my sheep that you may judge something of the character of the fleeces in regard to oil and yolk, as well as the complexion and fineness. I think I can show as even a flock of like number as there is in the country. You can judge of the uniformly fine quality of my wool from the fact that out of 1447 lbs. sorted at the White River Wool Depot, there were only nine pounds "No. 2," the remainder being classed in the three higher qualities.

The average weight of my last year's clip of wool, *exclusive* of any wethers or bucks' fleeces, except lambs, was 4 lbs. 6 oz. which brought me, through the agency of the Wool Depot, at the rate of $1.86 per fleece. The annual income of my flock by the sale of wool and surplus sheeep, (which included my bucks, wether lambs and my oldest and most objectionable ewes) was $3.17 per head.

I believe if wool-growers, whose sheep are not below a medium character, would select their most approved ewes and cross them with the very best bucks, with fine and heavy fleeces, they could, in a few years, obtain a flock that would average 4 lbs. or more, of clean washed wool that would sort as "fine" and "No. 1." EBNR. BRIDGE. *Pomfret, Vt., Feb.* 1851.

Keeping Fowls---Value of their Manure.

At a late agricultural discussion in this city, Mr. CHESTER MOSES, of Skaneateles, made some valuable remarks on poultry keeping. He stated that for several years past he had kept 600 to 700 fowls, and the last winter kept 900. His chief object is eggs, of which his fowls average about 100 each, annually. They are not confined, but are allowed to range at will. Their food is principally wheat screenings, with some corn, buckwheat, and animal offal. He is also particular to allow them plenty of oyster-shells, pounded, of which, especially during spring, or at the season when they lay most, they eat large quantities. The lime of the oyster-shells doubtless contributes to the formation of the shell of the egg, and perhaps assists, also, in the digestion of the food.

He keeps the Polish or Top-knot fowls, and the common country stock—prefers the former on account of their laying more steadily the first year, or two years—thinks there is not much difference in the black and spangled varieties of Top-knots. His general practice is not to keep fowls after the second year; as they do not lay so well after that age, they are regularly sold off, and the stock is kept up chiefly by purchase, though some chickens are raised; and it is only for the latter object that cocks are kept, Mr. M. being satisfied that they are of no benefit in the production of eggs for market.

Mr. MOSES considers the manure of his fowls of much importance, and takes care that it is all saved and applied to his crops. Under the building in which the fowls roost, is a cellar, into which all the manure is put. In spring, a few weeks before planting time, the manure is worked over and mixed with plaster—sometimes with plaster and ashes in equal proportions—using enough of these articles to make the manure so dry as to pulverize thoroughly.

This domestic guano, of which Mr. M. sometimes has the quantity of 300 bushels in a season, produces a powerful effect on the growth of Indian corn. His mode of applying it is, to drop a handful in each hill, which is then covered half an inch or more with earth, in order to prevent the seed from coming in immediate contact with the manure, which experience has shown would prevent its germination. Mr. M. stated that he had tried this compost in comparison with good hog manure, by applying each to corn in the same field and on similar soil. On one part, half a shovel full of hog manure was put in a hill, and on the other part, a handful of the hen manure compost. The crop was best where the latter was used, and the succeeding crop, (which was oats,) showed the same result in favor of the hen manure.

On another occasion he manured ten acres with the hen manure, which produced sixty bushels of corn to the acre. On a part of this piece, he used the manure only on alternate rows, leaving the intermediate rows with no application. The ears were "mere nubbins" on the rows that had no manure. He planted pumpkins on a row that had no manure, and on another row that had the proportion given to the rest of the field. The row which had no manure, produced no pumpkins of any value; the other produced fifty-one fair sized, good pumpkins.

Mr. M. stated that his son was engaged with another person in the poultry trade, and that in the winter of 1849–50, they sent between twenty and thirty tons to New-York and Boston.

◆

INCREASE OF CHESS.—WM. LITTLE, in his address before the Mahoning county (O.) Agricultural Society, remarks that the increase of chess from seed, is much more rapid than farmers are generally aware of. He says, "if the wheat crop is injured or destroyed, the chess plant, which, if surrounded by strong and healthy wheat plants, would make but a small and feeble growth, spreads itself far and wide, and assumes the place of its unfortunate rival. The result of one seed thus accidentally dropped would astonish one. I have myself counted 78 stalks, each stalk averaging 20 seeds, making about 1560 seeds from one single plant; multiply this all over the field, and it is not hard to tell where all the chess comes from."

NOTES FOR THE MONTH.

Award of Premiums.

It appears by our books, that the following gentlemen are entitled to the Premiums we offered for the largest lists of subscribers to The Cultivator for 1851, received prior to the 15th of March:

1.	A. Cary, Fort Plain, N. Y.,	213 subs.	$50
2.	F. H. Fessenden, Brattleboro, Vt.,	109	40
3.	L. W. Curtis, Madison, N. Y.,	86	30
4.	John H. Reid, Frederickton, N. B.,	62	20
5.	John J. Putnam, Amsterdam, N. Y.,	61	7.50
6.	H. Mills, Lowville, N. Y.,	61	7.50
7.	M. Davis, Jr., Lynchburg, Va.,	59	Each $5.00
8.	P. Steadman, Chicopee, Mass.,	51	
9.	A Cornell, Newtown, Pa.,	50	
10.	W. O. Buell, Perth, Can.,	50	
11.	O. F. Marshall, Wheeler, N. Y.,	49	Each $3.00
12.	Thos. M. Harris, Ritchie C. H. Va.,	46	
13.	James Wells, Johnstown, N. Y.,	46	
14.	George Clare, Schenectady, N. Y.	44	
15.	J. P. Mills, Galesville, N. Y.,	43	
16.	J. Miller, Schoharie, N. Y.,	41	
17.	W. L. Eaton, Nashua, N. H.,	41	
18.	S. C. Jackson, Minaville, N. Y.,	41	
19.	G. A. Hanchet, West Stockholm, N. Y.,	39	
20.	Jay Jackson, Chesterfield, N. H.,	39	
21.	W. Keese, Peru, N. Y.	39	
22.	C. T. Dake, Kinsman, O.,	39	

All others who have sent us fifteen subscribers or more, with the pay, are entitled to a copy of Thomas' American Fruit Culturist, or any other dollar book they may select. [For list of Agricultural and Horticultural Books, see our last number, p. 120.]

◆

Acknowledgments.—Communications have been received since our last, from J. R. L., Deane, V. W. S., John Johnston, J. W. Gray, J. F. H., Obed Hussey, Francis Whiting, T. H. Collins, Henry Halsey, M. E. O., S. W. Thompson, Wm. P. Bedell, S., S. Van Denburgh, H. C. W., J. F. Gritman, Norton Case, G., A Subscriber, David Thomas, Prof. J. P. Norton, C. Reagles, Geo. Mansfield, Le Roy Mowry, One who intends to be a Farmer, O., J. T. C., W. O. Buel, S. L. Wattles, J. Cummings, H. Collins, A. T. James, Gurdon Evans, Wm. Bacon.

Books, Pamphlets, &c., have been received as follows: Annual Report of the Trustees of the Mass. Lunatic Hospital at Worcester, from the Superintendent, Dr. Geo. Chandler.——Transactions of the Essex (Mass.) Ag. Society for 1850, from Hon. J. W. Proctor, President of the Society.——Fourth Annual Report of the General Agent of the Board of National Popular Education, from Hon. Wm. Slade.——Report of the Ag. Committee of the Ho. of Rep. of Iowa, from Hon. M. W. Robinson.——Address before the Ontario Ag. Society, by Prof. Norton.——Annual Report of the Superintendent of the Onondaga Salt Springs, from Prof. Geo. H. Cook.——Scions of a Seedling apple and cherry, from Wilson Dennis, Cedar Grove, Pa.——Transactions of the Norfolk (Mass.) Ag. Society for 1850, from Hon. B. V. French.——Portrait (steel engraving) of the imported blood horse "Consternation," from the owner, J. B. Burnett, Esq., Syracuse.——Package of Seeds, from Hon. T. Ewbank, Com. Patent Office.

Live-stock Depot at Albany.—It may benefit many of our readers, to know that very extensive accommodations for cattle have been completed by Mr. Woolford, of this city. His stables, sheds and yards are commodious, and capable of affording ample room for three hundred head of fat cattle. His establishment is in Washington street, within a convenient distance of the railroads and river, and drovers with stock designed for New-York or Boston, will find this a good resting station, preparatory to a re-shipment at this place.

South-Down Mutton.—We acknowledge the reception of a splendid saddle of South-Down mutton, from Mr. J. McD. McIntyre, of this city. It was a part of one of the four carcasses spoken of in another place as having been exhibited in market on the 22d February. Having subjected this mutton to the best test in our power, we have no hesitation in pronouncing it of the very first quality—really delicious. Indeed we do not see how any meat could be superior to it in flavor and quality. Why should not more of our farmers supply their tables with such a luxury? It could be provided with as little cost as beef or pork, and, certainly, it only needs to be known, to be preferred to either. These sheep were reared on the sand-plain, between this city and Schenectady—land which a few years since was deemed of little value; and they acquired their fatness chiefly by grass, hay, and turneps—having been fed with grain only the past winter.

Fine Rabbits.—Messrs. Frs. Rotch and R. H. Van Rensselaer, of Morris, Otsego county, will please accept our thanks for specimens of their fancy rabbits. The specimens sent were designed for the table, and their destiny in that respect having been accomplished, we are able to pronounce them excellent. One of them was exhibited in market, on the 22d of February, at the stall of Mr. McQuade where it attracted much attention, being almost as remarkable for fatness as any of the "show cattle," or even the big bear which had been "fattened three years."

Cattle Poisoned by Lead.—A few years since, Mr. R. H. Van Rensselaer, of Morris, Otsego county, lost seven head of cattle, (mostly full blood short-horns,) whose death, it is believed, was caused by particles of lead taken into the stomach with their food. The hay on which they were fed, was all cut with Green's straw-cutter, which has a lead roller against which the knives cut. The action of the knives, constantly cuts away the lead, which falls with the fodder as it drops from the machine, and was taken up with it and fed to the stock. When the first animals died, the stomach was not examined; but while the two last were sick, it was suggested by a medical gentleman, that they might have been poisoned, and a *post mortem* examination showed that numerous particles of lead were attached to the inner coat of the first stomach, the organ being evidently inflamed from this cause. All the animals which died, were affected in a similar manner, and were probably diseased from the same cause. It may be said, in reference to this case, that no such consequences have been known to result from many other instances of the use of the straw-cutter mentioned. In explanation of this, Mr. V. R. states, that the fodder from his machine was fed very closely—that is, everything was daily swept from the floor, and given to the stock. In most other instances, probably, the finer portions of the fodder, with the dust, are left where the cutting is done, and the particles of lead, would, from their weight, be likely to remain with them.

Benefits of Railroads.—A correspondent at Berlin, Erie county, Ohio, writes—"We in Ohio look forward with hope amounting to expectation, that the time is not far distant when we shall be able to reach the markets of New York and Boston by means of railroad communication, at all times of the year. We shall then enjoy the benefit of that competition which stimulates the exertions of the seller, and gives satisfaction to the buyer. We have the elements of greatness among us—the skill and ability to produce agricultural articles equal in quality to any in the Union; all that is wanting is a market that will pay us. Every facility of transportation has a tendency to bring the distant near, and produce an equilibrium in advantages."

A Poultry Amateur.—We have before spoken of the beautiful collections of various kinds of fowls which have been exhibited by Mr. John Giles, of Providence, R. I., at the great poultry shows at Boston. In a late letter, Mr. G. informs us that he received by the steam ship Africa, a large addition to his former stock, among which is the famous Rouen duck. He says, "I have now over forty distinct and pure varieties of domestic and aquatic fowl, all of which I keep for my own amusement."

Morgan Horses for Washington County, N. Y.—We are informed that Le Roy Mowry, Esq., of Greenwhich, has lately purchased some fine Morgan stock; viz: a colt, foaled May 24th, 1849, purchased of William Arnold, Walpole, N. H., and a filly, foaled June 3d, 1848, purchased of Mr. Gates, of Walpole, (late one of the owners of *Gifford Morgan*, now dead.) Both these animals were by Gifford Morgan, and the filly, whose dam was by *Sherman Morgan*, is in foal to her sire. They are represented to possess the form, action, and other good qualities which distinguish the Morgans. Mr. Mowry informs us that he made some inquiries, when in New Hampshire, lately, in regard to the market value of geldings of this stock, when four or five years old, and found it was about $200, "while not a few have been sold as high as $500 or $600 each." This information may serve as an answer, in part, to many inquiries which we have received on this subject. Mr. Mowry deserves credit for the enterprise he has shown in bringing these animals to Washington county, where we think they will, if no accident befalls them, be of great public benefit.

Great Sales of Stock.—The sales of stock advertised in this number, by Messrs. Vail and Morris, are worthy the attention of those desirous of procuring animals of improved breeds. It will be seen that the sales of those gentlemen are so arranged that both may be attended without inconvenience—the one following very soon after the other. We presume these sales will attract many of the best stock-raisers from various parts of the country.

Wind-mill.—Mr. S. W. Thompson, of Pittstown, N. Y., wishes to obtain information as to the best plan of building a wind-mill, to be used for threshing grain, running a saw, &c. We have no knowledge of the one mentioned as having been patented by Israel Keys, of Putney, Vt. Will some of our correspondents tell us what is the best kind in use?

Drain-tiles.—A correspondent in Lucas county, Ohio, asks—"What would be the expense, upon a common brick-yard, of making drain-tiles?" Can any one answer the question?

Cultivation of the Cranberry.—We have received a letter from Mr. F. B. Fancher, of Lansingburgh, enclosing some remarks from Mr. Sullivan Bates, of Bellingham, Mass., in regard to the cultivation of the cranberry. Mr. B. says the variety which he calls, the "Bell Cranberry" can be cultivated on upland, and that he knows of no other kind that can be naturalised to dry soil. He states that it is necessary that the soil should be quite poor, and that it is generally best to remove the sod or vegetable matter to reduce it to a proper state of sterility; but if the soil is so poor that grass and weeds do not grow on it, it may be plowed and harrowed and the plants set without any other preparation. The soil is marked in drills two to three feet apart, and the plants set six inches apart in the drill. They should be hoed the first season, and they will cover the ground in three years. He states the produce at 150 to 400 bushels to the acre. Mr. Fancher can supply plants.

Fat Cattle and Sheep.

The roan cattle, formerly owned by Mr. Edward Munson, of Sennett, Cayuga county, for which the first premium (in the class of stall-fed cattle) was awarded at the last State Fair, were brought to this city in February last, by Mr. Samuel McGraw of McGrawville, Cortland county, who purchased them several months since. They were sold to Messrs. P. & J. Fredenrich, who exhibited the beef at their stall in the Centre Market on the 22d of February. They were examined by many connoisseurs, both before and after they were slaughtered, and were deemed equal in fatness to any cattle that had ever been in our market. We learn from Mr. McG. that one of them was one-fourth, and the other three-fourths short-horn blood. The latter was the heaviest, and was an animal of fine symmetry, remarkable for the evenness and uniformity with which the frame was covered with flesh and fat. They would have been seven years old this spring. Their weight was as follows:

Live weight of the two,...............			5,333 lbs.
Dead weight,—No. 1.	quarters,	1,780 lbs.	
	tallow,..	215	
	hide,....	117	
	total,...............		2,112 lbs.
No. 2.	quarters,	1,674	
	tallow,..	225	
	hide,....	112	
	total,...............		2,011 lbs.

Mr. McGraw also sold a pair of fine cattle, four years and ten months old, the quarters of which weighed 1,270 and 1,168 lbs.—hide and tallow not ascertained. These were slaughtered by J. Battersby, and exhibited at his stall, corner of North Pearl and Patroon streets. Mr. B. had also the carcasses of two fat cows, purchased of Mr. McNeil, of Schoharie county, the quarters of which weighed 934, and 856 lbs.

Mr. James McQuade exhibited at his stall in the Centre Market, the beef of a fine ox, five years and ten months old, fattened by Mr. Hoag, Duanesburgh. The total weight of beef, hide, and tallow, was 1,905 lbs.

Mr. Wm. Castle, of Centre Market, exhibited the carcasses of four excellent wether sheep, two years and nine months old, bred and fattened by Mr. J. McD. McIntyre, of this city. Three of the sheep were a cross of the South-Down and Cotswold, and the other was a full blood South-Down. The dressed weight of the cross-breds, (the heads and feet being off,) was 130, 125, 92 lbs.; that of the full blood South-Down 90 lbs.

They were all very handsome sheep, and of very light bone and offal in proportion to the weight of carcass.

Heavy Cow.—Hon. Geo. Geddes, of Onondaga county, recently slaughtered a cow, 11 years old, three-fourth short-horn and one-fourth Alderney breeds, which weighed, dressed, (quarters, hide and tallow,) 1,136 lbs. She had her first calf at the age of seventeen months, and has produced one every year since till 1849. She was dried of her milk twelve months before she was killed, and acquired her fatness principally by grass, having been fed on meal only three months.

Fat Oxen.—A pair of superior fat oxen, belonging to John H. Boyd, Esq., of Whitehall, passed through this city about the first of March last. They were coming seven years old, and weighed alive, as we were informed, 4,460 lbs. They were small-boned, and of good form and quality. We were not informed as to the breed, but should suppose they were a mixture of short-horn, Devon, and common stock.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Bone Dust or Bone-Manure.

600 Barrels of this best of manures for sale by the single or hundred barrels at New-York prices, by

THOMAS COULSON, Jr.
April 1—1t.* 590 Bowery, Albany.

Fortune's New Yellow Climbing Rose.

THE subscriber has now for sale at the *Asylum Hill Nursery, Hartford, Ct.*, a fine stock of Fortune's Yellow Rose. Strong plants, on their own roots, at $2 each. Smaller plants at $1 each.

Also a good collection of hardy Climbing, hardy Perpetual, and Moss Roses, and Ornamental Shrubs. GEO. AFFLECK.
Hartford, Ct. April 11, 1851—1t.

FRUIT TREES FOR SALE.

THE subscriber invites the attention of Nurserymen and Fruit Growers to his large stock of Apple, Early Golden Apricot, Frost Gage, and Cherry Trees. Isabella Grapevines, and Quince Bushes—with a large and general assortment of FRUIT TREES. All of which will be sold very low. Catalogues sent to all applications. CHARLES DUBOIS.
Fishkill Landing, April 1—1t.

TOBACCO SEED

OF the most approved variety for northern cultivation, will be sent by mail or express, to any person sending the money, in post-paid letters, at $3.00 per pound, for any quantity equal to a ¼ of a pound, or at the rate of 25 cents per ounce for a less quantity.
Upper Middletown, Ct., April 1—1t. R. S. WARNER.

Farmers', Gardeners' and Planters' Store.

A. G. Munn.] **A. G. MUNN & CO.** [Wm. Garnett.

530 Main-Street, four doors below third, at Wallace and Lithgow's old stand, Louisville, Ky. All kinds of Garden, Flower, Field and Grass-Seeds, and every variety of Agricultural and Horticultural Implements, constantly on hand, wholesale and retail.

☞ Also agents for the different Nurseries in the vicinity. Orders from abroad promptly attended to.

☞ Cash paid for Flax Seed, Mustard Seed, &c.

Fresh Osage Orange Seed for sale.

1,000 Bushels Kentucky Blue Grass, 500 bushels Kentucky Hemp Seed, 100 bushels Kentucky Pumpkin Seed, for sale, all crop of 1850. A. G. MUNN & Co. Louisville, Ky. April 1—1t.

Fruit Trees---Special Notice.

THE proprietor is desirous of disposing of a large proportion of the *Fruit Trees* in his Nurseries at Hawthorn Grove, Dorchester, Mass., with a view to improvements on the grounds the coming season.

The collection of *Pears*, *Cherries*, *Plums*, and other *Fruit*, embraces almost every approved sort of American or Foreign origin extant, and is scarcely surpassed in excellence or extent of variety.

Special Cultivation has been bestowed on the *Pear*, and many thousands of thrifty vigorous trees, are now ready for transplanting.

Extra Size Trees, with fruit buds, either on the quince or pear stock, and such as will soon commence bearing, can be supplied at moderate prices.

Also all the new varieties of *Pears*, *Cherries*, *Plums*, *Raspberries*, *Currants*, *Strawberries* and other fruits, and at rates less than is generally charged for novelties.

Scions for exportation and the home trade, can be had from fruit bearing trees, thereby ensuring correctness of nomenclature.

Selections, where desired, founded on the experience of many years, will be made by the proprietor, and which will seldom fail to please the correspondent.

ADDRESS—"The Superintendent of the Nurseries at Hawthorn Grove, Dorchester, Mass.," to the care of the subscriber,

MARSHALL P. WILDER, No. 2 Pearl-st., Boston.

N. B.—Grove Hall Coaches leave No. 11 Franklin-st. four times each day. April 1—1t.

Isabella Grapevines for Sale.

THE subscriber has a few thousand ISABELLA and OTHER GRAPEVINES, which he will sell on very moderate terms. Nurserymen and others, who may wish them in large quantities, can be supplied with a few thousand annually, by ordering them a year in advance. We have steamboat navigation, and other facilities for transportation to almost every part of the United States, and those who order roots may rely on receiving them without delay.
East Haddam, Ct., April 1—1t. ASA M. HOLT.

ISABELLA GRAPEVINES,

OF proper age for forming vineyards, propagated from and containing all the good qualities which the most improved cultivation for over 12 years, has conferred on the vineyards at Croton Point, are offered to the public.

Those who purchase, will receive such instructions for four years, as will enable them to cultivate the Grape with entire success, (provided their localities are not too far north.) Dr. R. T. Underhill feels quite confident that he has so far meliorated the character and habits of the Grapevines in his vineyards and nurseries, by improved culture, pruning, &c., that they will generally ripen well, and produce good fruit, in most of the northern, and all the western, middle, and southern states.

From the experience of the past season, he is fully convinced that where his directions are strictly followed in planting the vineyard, and in its subsequent management, a good crop of Isabella Grapes may be ripened in a very unfavorable season. All communications, post-paid, addressed to R. T. UNDERHILL, M. D., Croton Point, Westchester Co., N. Y., will receive prompt attention.
April 1—1t.

DEVON BULL.

FOR sale, a full bred Devon Bull, 3 years old in July last, bred by H. N. Washbon, Otseso county, from the celebrated stock of Mr. Patterson, Baltimore. A choice animal, and a good stock getter. Price $100. J. W. COLLINS.
Smyrna, Chenango Co., N. Y. April 1—2t.

CAUTION.

THE subscribers, patentees of Wheeler's Patent Horse Powers, having noticed that an Agricultural Firm is advertising that Wheeler's Patent Horse Powers and Overshot Threshers are manufactured and sold by them, when in fact they have not obtained from us any liberty to use our patent, we hereby caution all persons that said Firm has no right to use our Patent, or to manufacture or sell said Horse Powers, and that a sale by them will confer no right upon the purchaser to use such Power.

Messrs. Wheeler, Melick & Co., of Albany, and their agents, are the only persons authorised to make or sell Wheeler's Patent Horse Powers; and every such Power made or sold by them, or by any person having a License to do so, has upon one of the Cast Iron Semi-Circles, at each end of the Power, the words

"Wheeler's Patent—Wheeler, Melick & Co., Makers, Albany, N. Y."

A due attention to this fact will enable Purchasers to avoid imposition and fraud.

No person or firm in Albany, except WHEELER, MELICK & Co., is authorised to make or sell said Horse Powers.
April 1. A. & W. C. WHEELER, Patentees.

The Morgan Horse, Young Gifford.

THIS fine Horse, of the genuine Morgan breed, will stand the coming season, at the stable of the subscriber, in Farmington, Ct., for the use of Mares. Young Gifford was bred in Walpole, N. H., and was got by Old Gifford Morgan, his dam a pure Morgan. He will be four years old in May next, and is one of the best specimens of this distinguished breed. The Morgans are so well known and admired throughout New-England, that it is unnecessary to repeat their merits.

TERMS—$5 dollars for a single service. $8 the season. $10 insurance. WM. L. COWLES.
Farmington, Aprjl, 1851—2t.

MORSE'S GREY.

THIS celebrated Horse was awarded the first premium of $20, at the great New-York State Fair in Sept., 1850, where he was exhibited with a large number of his colts, and was judged the best stock-horse for "all work" in this country. Said horse has trotted his mile in two minutes and forty-six seconds. One of his colts took the first premium at the State Fair at Saratoga Springs; he was owned by Mr. Milliman, of Washington county, N. Y.—and in all places where this stock has been exhibited, they have carried off the best premiums. He is a beautiful dapple grey, 15¾ hands high, strongly and finely proportioned.

This Horse is a descendant of the "Dilligence horses" in Italy, and brought from there by Napoleon Bonaparte, into France. His sire was brought to Quebec, and was then sold to a gentleman by the name of McNit, of Washington county, N. Y. His dam was of the Messenger breed.

Said Horse was raised by Mr. J. Mills of Argyle, Washington county, N. Y. We challenge any horse in this State to show as fine stock as said Horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150, to $500, and $1000.

Terms $10 the season. Insurance to be agreed upon. Said Horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to I. T. Grant, P. M., Junction, Rensselaer county, N. Y., will receive prompt attention. CALVIN MORSE,
April 1, 1851—3t. I. T. GRANT

Thorp, Smith & Hanchett,

Proprietors of the Syracuse Nurseries, Syracuse, N. Y.

CULTIVATORS of, and dealers in, all kinds of Fruit Trees, Ornamental Trees and Shrubs, Green-house Plants, Bulbous Roots, Seedlings, Hedge Plants, &c., offer for the Spring sales a very large stock of the best varieties of *Apple, Cherry and Peach Trees;* a choice selection of native and imported *Plum Trees*, and a splendid importation of *Pyramidal Pear Trees on Quince*, 5 to 7 feet high, 50 cents each, consisting of nearly one hundred of the most celebrated varieties, old and new. These trees have invariably given the most entire satisfaction, and are offered at a quite unusually low rate.

They have also for sale an extensive assortment of *Ornamental Trees, Shrubs, Vines, Green-house Plants, Evergreens and Plants for Bedding out*, among which are—

Deodar and Lebanon Cedars, 3 to 5 feet, price $2 each; Japan Cedars, Magnolias, Daphnes, Altheas, Honeysuckles, Dahlias. Roses of all classes, including *Fortune's China*, Phloxes, Petunias, Verbenas, Maurandias, Lophospermums. *Calestegia pupescens*, a new and beautiful climber, covered with a profusion of large double flowers, of a delicate rose color, from June till cold weather. Heliotropes, Geraniums, Salvias, Double Feverfews, Plumbagoes, Tree and Herbaceous Pæonies, Double Lichness, &c., &c., all of very superior quality and beauty.

☞ Persons favoring them with their orders, shall have no cause to complain of the quality of any articles sent them.

☞ Catalogues sent *gratis*, as usual, to all post-paying applicants.

N. B. T., S. & H., have formed a partnership under the firm of Thorp, Smith, Hanchett & Co., to take effect in May next, with Mr. A Fahnestock, a skillful, practiced and intellegent nurseryman and propagator, who will superintend the management of the Green-house department, which they design shall constitute henceforth, an important feature in their business. By this arrangement they become joint proprietors with him in the "Augusta" Rose, an acquisition to the Floral world which is destined to create a marked sensation. It will be sent out in the spring of 1852. April 1, 1851—1t.

SENECA LAKE HIGHLAND NURSERIES.

E. C. FROST, Proprietor, Catharine, Chemung County, N. Y.

FRUIT Trees of all kinds, *Ornamental Trees and Shrubs, Grape-vines, Hedge Plants*, Box for edging, *Strawberries, Dahlias, Green-house Plants, &c. &c.*, in large or small quantities. The Nursery and standard trees cover 40 acres.

The following varieties of Apples can be furnished:

The Wagener.—For this new variety the New-York State Agricultural Society awarded to Charles Lee, Esq., of Yates county, the place of its origin, the highest premium in 1847, and again in 1848; also procured a colored plate for a frontispiece to its published Transactions, and gave it a full description in part as follows: "*Texture*—Fine grained, crisp and juicy. *Flavor*—Rich, sprightly, vinous, sub-acid and delicious. *Season*—From October to May, and a prolific bearer." By referring to vol. 7th, page 60, of the Albany Cultivator, it will be seen that I have had the exclusive privilege of Mr. Lee's trees, and have taken scions from his, the original seedling tree, and also from others worked from it in the same neighborhood, so that those ordering will be sure of the genuine variety. Price of this variety 50 cents each, and scions furnished only in small quantities.

The Hawley or Douse.—For flavor, size and productiveness, this is believed to be the best fall apple known, either for dessert or market purposes. A description and outline can be seen in the Cultivator of April, 1847, from which we quote: "Of all the varieties of Apples which have lately been brought to notice, probably none is destined to become more and deservedly popular than the Hawley or Douse." Also in the Horticulturist of July, 1847; Hovey's Magazine of Dec. 1847, and the Genesee Farmer of May, 1848. The latter in describing it, adds—"The first time we saw it was at the State Fair at Auburn, in 1846, when it was exhibited by E. C. Frost, of Chemung county, as the Douse. His specimens were monstrous, and we well remember the commotion it created among the pomologists present, to all of whom it seemed unknown." Trees four years from the graft, 50 cents each. Scions by the dozen or hundred.

The Winter King, is a very showy and productive Apple, cultivated in this and Tompkins county, where it sells one shilling per bushel higher than that fine and well known variety, the Swaar. 25 cents.

Tompkins Apple.—Origin Tompkins county. An outline and description is given in the Horticulturist of February, 1848. Mr. Downing says—"A large, handsome, and productive autumn fruit, superior in flavor to the Porter. We commend it with confidence to the notice of amateurs, and collectors of good fruit." Season—October and November. 25 cents each.

In addition to the above four new varieties, among other standard sorts, are the following: Early Harvest, Large Sweet Bough, Summer Queen, Fall Pippin, Early Joe, Norton's Melon, Swaar, Baldwin, Northern Spy, Roxbury Russet, Ladies Sweeting, and Newtown Pippin. Scions—One or two dozen can be sent by mail with safety, to any part of the Union, and larger quantities by public conveyance.

Pears and Plums are not affected by the blight.

Eastern Fruit Growers can procure Peach Trees here, perfectly free from the *Yellows*, a disease to us unknown.

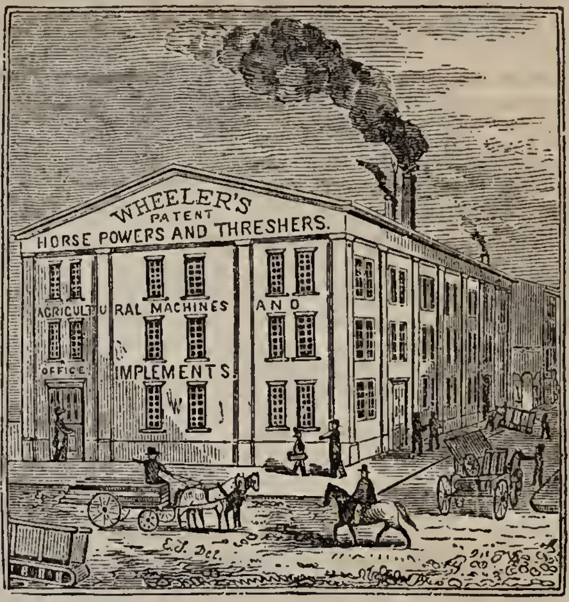
Trees carefully packed, and sent by public conveyance to any section of the United States and Canadas.

Being on the Chemung Railroad, which connects the New-York and Erie, with the Buffalo and Albany route at Elmira and Geneva, this location for railroad facilities, is surpassed by none.

Priced Catalogues furnished gratis to all post-paid applicants, containing an engraving and full description of the Wagener, and Hawley or Douse Apple.

Packages amounting to $10 and over, passing to or through New-York, will go free to the purchaser to that city, by the New-York and Erie Railroad. April 1—1t. E. C. FROST.

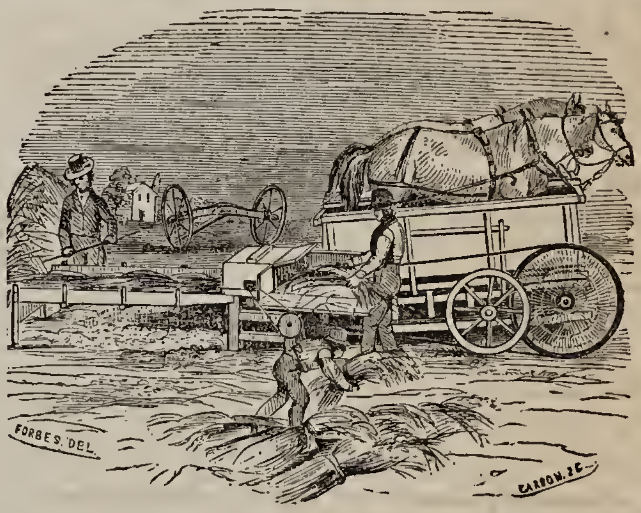
New-York State Agricultural Works.


WHEELER'S PATENT HORSE POWERS AND THRESHERS.
AGRICULTURAL MACHINES AND IMPLEMENTS
OFFICE
E.J. Del.

AGRICULTURAL MACHINES & IMPLEMENTS.

Wheeler, Melick & Co.

CONTINUE their manufactory at the corner of Hamilton and Liberty Streets, ALBANY, where they are prepared to fill all orders with despatch. Orders for


FORBES. DEL.
CARSON. SC.

Wheeler's Patent Railway Chain Horse Powers and OVERSHOT THRESHERS and SEPARATORS, will receive their prompt attention.

☞ The large and increasing demand for these Machines has induced the Proprietors to erect a New and Spacious Manufactory, and otherwise extend their means of promptly filling orders. Their Powers and Threshers have been sold in nearly every State in the Union, during the past year, and their superiority has been acknowledged by numerous testimonials, not only from Agricultural Societies but from persons who have used them. They have been awarded the First Premiums at all the principal Fairs where they have been exhibited in operation, including the Pennsylvania State Fair, the Provincial Fair of Upper Canada, and the Michigan and Ohio State Fairs, together with numerous County Exhibitions in the different States.

THE TWO HORSE MACHINE, with from three to five hands, will thresh from 125 to 200 bushels of Wheat per day, or twice that quantity of Oats.

The One Horse Machine will thresh rather more than half that quantity.

Price at Albany.

For Two Horse Machines,........................ $145 00
For one Horse do, ... $120 00

Machines will be shipped to any part of the United States or the Canadas, ☞ *and warranted to give satisfaction to the purchaser, or they may be returned within 60 days.*

The subscribers also manufacture and will furnish to order the most approved kinds of

Feed Cutters, Clover Hullers, Circular Saw Mills, &c. &c.

They will also furnish Horse Powers properly geared for driving Churns, elevating Grain, or other purposes to which horse power can be applied.

WHEELER, MELICK & CO.
Corner of Hamilton and Liberty-streets, Albany, N. Y.
April 1, 1851.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany

AUBURN NURSERY.

THE proprietor has now ready for sale TEN THOUSAND Apple Trees, 4 and 5 years old, from 7 to 9 feet high, comprising all the leading Standard varieties propagated by himself, and warranted genuine.

Also a good assortment of Pears on their own roots, and on Quince for Dwarfs. And Cherries, Peaches, Apricots, Gooseberries, Currants, Raspberries, Ornamental Trees, Shrubs, Roses, &c., &c.

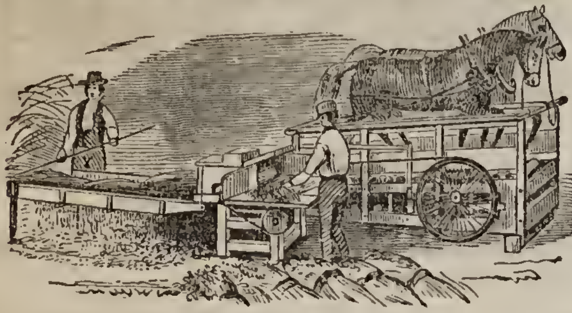
Also a quantity of Buckthorn for Hedges. All the above articles can be furnished of good quality, and as reasonable as at any Nursery in the State. Catalogues sent to all post-paid applicants.

Auburn, April 1, 1851—1t.* S. S. GRAVES.

POUDRETTE.

THE Lodi Manufacturing Company offer their Poudrette for sale at their usual prices, viz: $1.50 per barrel, for any quantity over six barrels, delivered free of cartage on board of vessel, in the city of New-York. The article offered this year for sale, will have the advantage of being freshly manufactured.

☞ The company's office is 74 Cortland Street, New-York city, a few doors from the ferry. Address "THE LODI MANUFACTURING COMPANY, NEW-YORK," *post-paid.* April 1, 1851—3t.



EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Rail Road Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and in competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as follows:

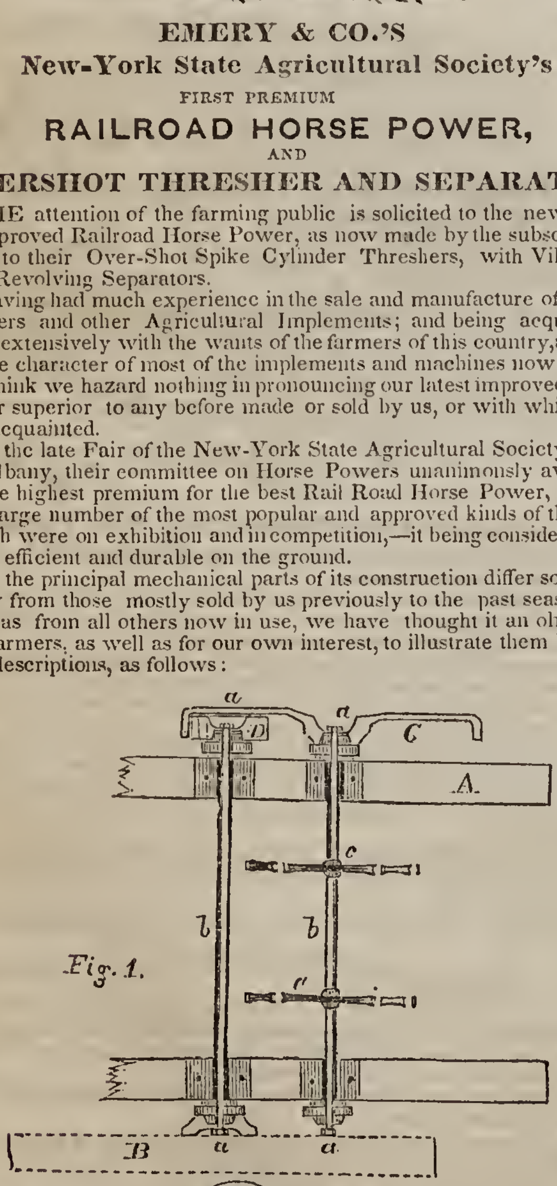


Fig. 1.

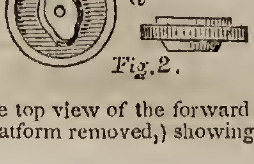


Fig. 2.

Fig. 1, represents the top view of the forward portion of the Power, (with the endless platform removed,) showing the side sills, A.A., which support the two large iron shafts, b.b. The coupling flanges, a.a.a.a., on the ends of the shafts, with nuts and screws for confining the wheels, &c. The CONVERGE wheel, C. confined on the end of the forward shaft, b. by means of ist concave hub, coupling screw and nut, a. The pinion, D. confined in like manner on the end of the other shaft, b. and so arranged as to work into the converge gear, C. The driving pulley, B. with concave hub, confined in like manner to the opposite end of the pinion shaft, b. on the opposite side of the Power; the two iron reels, c.c. confined on the forward shaft, inside the frame, near the sills.

Fig. 2, represents the side and edge view of the coupling flanges, a.a.a.a., or hub, which is fixed firmly and permanently to the ends of both shafts, b.b.

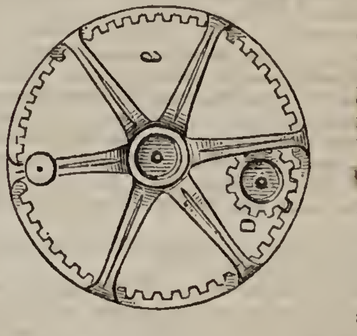


Fig. 3, represents the face view of the converge gear wheel, C and pinion, D. as working together when in use—which are confined on the shafts outside the frame of the power. One of the arms of the wheel has a plate projecting a little from its face, and calculated for receiving a wrist pin for driving a pitman, or connecting rod, often used, and necessary for propelling cross-cut saws, pumping water, churing butter, &c., where a vibratory motion is desired.

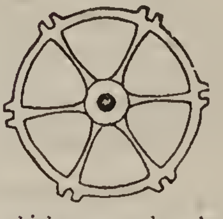


Fig. 4, represents the side view of one of the reels, c. two of which are confined upon the forward, shaft. The driving pulley, B. may be attached to either end of shafts, b.., as required for fast or slow motions.

The endless platform is composed of links connected by small shafts extending across the power, and through them far enough to receive small truck-wheels, which support the platform, and traverse on an iron track the whole circuit, except at the forward end of the power—when the small shafts are received into and supported by the forks of the reels, c. on the forward shaft, thereby giving it motion and power.

The diameter of the reels is such, that the ordinary walk of horses, or about two miles and a quarter per hour, give them about fifty-five revolutions per minute. The diameter of the pinion, D. being about one fourth the diameter of the converge gear, and consequently receive about two hundred and twenty motions per minute, and in the SAME DIRECTION—(which direction is found most convenient for all purposes, and indispensable for driving our Over Shot Threshing Machines, without crossing of hands.) The pinion working inside of the converge gear, allows more cogs to be in constant bearing, is stronger, and runs much lighter than spurr gearing, or rack and pinion. When arranged as in diagram, Fig 1, sufficient speed is obtained with either horses or oxen, (which last are often used) for threshing grain, ginning cotton, sawing wood, grinding feed, grating apples, &c. &c.

When less motion is desired for other purposes, the band pulley, B. may he attached to either end of the reel shaft, and receive but fifty-five revolutions; and when still slower motion is required, as for driving Elevators, Hay Presses, and Paddle Wheels for Ferry Boats, or propelling boats in the lumber and wood business, on many of our rivers and lakes, the pinion may be confined upon the reel shaft, and converge wheel upon the other, which serves to reduce the motion to about fourteen revolutions per minute, with increased power in proportion to decreased motion, the travel of horses being the same in all cases.

The advantages of these arrangements are numerous, and plainly seen—one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust. and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommand and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway Albany, N. Y.

BLOODGOOD NURSERY,

Flushing, L. I., near New-York.

KING & RIPLEY, proprietors, offer for sale their usual large and fine stock of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Grape Vines, Hedge Plants, Currant Bushes, Gooseberries, Raspberries, Strawberries, &c.

They can offer great inducements to persons wishing to start a Nursery or Fruit Orchard of any kind, or to ornament their grounds; and orders sent to them at 244 Pearl-street, New-York, will receive immediate attention, and the trees packed with great care for transportation. April 1—1t.

FRUIT AND SHADE TREES,

FOR sale at *Mount Ida Nursery, Troy, N. Y.*, a choice variety of FRUIT TREES, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds.

Currants, Gooseberries, Raspberries, Grapevines and Strawberries, of the choicest varieties.

Also a good variety of shade trees, consisting of Scotch Elm, English Sycamore, Linden, Horse Chestnut, Mountain Ash, Larch, Ash, Oak, &c.—Evergreen Privet and Buckthorn, for Hedges.

Rhubarb and Asparagus Plants, &c. Catalogues and other information can be had of the Nurseryman. JOSEPH CALDWELL.

Troy, April 1, 1851—1t.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

SEEDS.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a year. A. B. ALLEN & CO.,

March 1—tf. 189 and 191 Water street, New York.

AGRICULTURAL WAREHOUSE,

193 *Front Street, New-York.*

THE Subscriber would call the attention of those purchasing, to his extensive assortment of *AGRICULTURAL IMPLEMENTS.*

"*Highest Premium*" *Plows*, which were awarded the highest premiums in 1846, 1847, 1848, 1849, and 1850.

Also, *Eagle Center-Draught*, and all Plows in general use.

Corn Shellers, with single and double hoppers.

Straw Cutters—Hoveys's, Green's, Sinclair's and others.

Horse Powers—Badger's Improved, and Bogardus' Patents.

Fan Mills—Grant's Premium, and Clow's Rotary Screw.

Threshing Machines—Corn and Cob Mills, Grist Mills, Cultivators, Harrows, Grain Cradles, Rakes, Scythes, Forks, &c., &c.

March 1—3t. JOHN MOORE.

DAIRY SALT.

THE attention of Dairymen is particularly called to a very superior article of STEAM REFINED ROCK SALT, prepared expressly for the Dairy at the City Steam Mills, Albany.

The salt now offered is a pure article, free from specks, white as snow and sparkling as crystal. There is no excuse for a deficiency of cleanliness, and the difference in the price of a pure, clean article, is of little consequence, and scarcely felt. Butter known to be made with this salt, commands a better price and will sell much more readily in this market. For sale by the bushel, or in bags of one peck each, by C. N. BEMENT,

March 1—3t. 11 Hudson street, Albany.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan STALLION, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Good pasturage will be afforded at 3 shillings per week—accidents and escapes at the risk of the owners.

D. & D. E. HILL, Agents.

Bridport, Vt., March 1—4t.

FIELD AND GARDEN SEEDS.

THE subscribers are receiving and have on hand a choice lot of Field Seeds, composed in part of

Black Sea Spring Wheat, both red and white chaff
Italian and Hedge row Spring Wheat.
Spring Rye and Barley.
Broom Corn Seed, superior quality.
Clover, large, small and white Dutch.
Red Top, northern and southern.
Timothy and Orchard Grass.
Field and Garden Peas.

Also a choice assortment of fresh GARDEN SEEDS, warranted true to their name. The attention of Gardeners is particularly called to the assortment. All the above, with a full assortment of FARM and GARDEN IMPLEMENTS, are afforded on liberal terms at wholesale or retail, at the *Albany Agricultural Warehouse and Seed Store*, 369 and 371 Broadway, Albany, N. Y.

Catalogues gratis on application. EMERY & CO.

Mar. 1, 1851.

To Fruit Growers.

THE Subscriber cultivates at his various Nurseries, and has for sale at his residence, *Eustis-Street*, Roxbury, Mass, all the choice varieties of the PEAR, APPLE, PLUM, CHERRY, PEACH, and other Fruit Trees. *Raspberries, Gooseberries, Currants, Grape Vines, Strawberries, Asparagus Roots, &c., &c.* Also several thousand Pear Trees on the Quince—one, two, three, four, and five years from the bud. Particular attention paid to the cultivation of the PEAR. Persons wishing extra sized trees, or trees on Quince stock in a bearing state, will please call at the Nurseries and make their own selection.

Buckthorn for Hedges—One, two and three years old. Ornamental Trees, Shrubs and Roses, Herbaceous Plants, Pæonies, &c.

Scions of all the varieties of the Pear of established reputation, and also of other fruits. The whole for sale at the market price.

SAMUEL WALKER,

Roxbury, March 1, 1851—2t. Roxbury, Mass.

Fruit Trees of Select Varieties,

For sale at the Nursery of J. J. THOMAS, *Macedon, Wayne co. N. Y*

50,000 APPLE, Pear, Peach, Cherry, Plum and Apricot Trees, nearly all of large size, and *all propagated from bearing or proved trees*, including mainly the best STANDARD sorts, with such *new varieties* as have proved decidedly excellent—all furnished at moderate prices, and carefully packed for canal or railway conveyance. Communications, post paid, to be directed to

J. J. THOMAS, Macedon, Wayne co., N. Y.

☞ The proprietor wishing to alter a part of his grounds, now occupied with a fine growth of several thousand apple trees, will furnish a good selection of best sorts, of full size, at prices varying with quality, size, &c., from *ten to fifteen dollars per hundred*, with only actual cost of packing added. Mar. 1—2t.

TO FRIUT GROWERS AND NURSERYMEN.

ELLWANGER & BARRY solicit the attention of all Tree Planters, Nurserymen and Dealers, to their present stock, which is much larger and better than they have ever before had the pleasure of offering. It embraces among other things in large quantities,

Standard Fruit Trees—of all sorts.

Dwarf and Pyramidal Fruit Trees—for Gardens.

Gooseberries, Strawberries, Raspberries, Currants, &c.—all the newest and best kinds.

Ornamental Trees, Shrubs, Roses, &c.—including all new, rare, and desirable articles.

Buckthorn, Osage Orange, and other Hedge plants.

Stocks of all sorts—for Nurseries.

Green-house, Border and Bedding Plants.

Double Dahlias, &c.—in immense quantities.

Wholesale prices furnished when desired.

A new edition of the General Descriptive Catalogue is now ready, and will be sent gratis to those who apply *post paid.*

Mount Hope Garden and Nurseries, Rochester, N. Y., March 1, 1851—2t.

Fruit and Ornamental Trees,

For sale at the Nursery of H. Snyder, Kinderhook, Col. Co. N. Y.

THE proprietor of this establishment offers for sale, the coming spring, his usual assortment of FRUIT and ORNAMENTAL TREES, SHRUBS, VINES, ROSES, GREEN-HOUSE PLANTS, &c.

Most of the trees are of large, handsome and thrifty growth, and among them may be found many of the best sorts of Apples, Pears, Plums, Cherries, Peaches, &c., grown in this country.

The stock of Apples and Pears is finer than has been offered before at this establishment.

Also, Pears on Quince stocks—Cherries on Cerasus Mahaleq stocks—Apricots, Nectarines, Grape Vines, Gooseberries and Currants, at the lowest market prices.

Ornamental Trees can be furnished by the hundred, at very reasonable prices, and of various sizes, for ornamental grounds.

EVERGREENS.—The following can be furnished of various sizes: Norway Spruce, Balsam Fir, Arborvitea, Scotch Pine, Deodar Cedar, Cedar of Lebanon, Auricarias, Cryptomeria Japonica, Cupressus. Thurifera, &c.

PLANTS FOR HEDGES.—Privet, Buckthorn, English Hawthorn, Locust, &c.

Seedlings of the following kinds—Sugar Maple, English Sycamore Maple, Horse Chestnut, Black Walnut, White Ash, European Mountain Ash.

A large stock of Apple Seedlings, suitable for root-grafting, at the lowest rate.

Catalogues will be forwarded to all applicants. Feb. 1, 1851—3t.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. beg leave to call the attention of *Dealers* and *Planters* of trees, and the public in general, to their very large and complete stock of FRUIT AND ORNAMENTAL TREES, which they offer for sale the coming spring. The trees of these Nurseries are all grown on the premises, and propagated under the immediate supervision of Mr. Saul, whose long connection with this establishment is some guarantee for the accuracy of the stock now offered for sale. It consists in part of over

20,000 Pear Trees, 5 to 8 feet high, and embracing all the leading Standard Varieties, as well as those recently introduced, of merit, either of American or Foreign origin.

20,000 Apple Trees, of *extra size*, 8 to 10 and 12 feet high, including every variety worthy of cultivation.

10,000 Plum Trees, 5 to 8 feet, of every known kind of reputation, as well as all the novelties of recent introduction.

10,000 Cherry Trees, 6 to 8 feet and over, among which will be found all the desirable and choice varieties.

A large stock of handsome, well grown trees, of Peach, Apricot, Nectarine and Quince, in every variety. Also,

Grapevines, Native and Foreign, Raspberries, Gooseberries and Currants, Strawberry plants and Esculent Roots, such as Asparagus, Rhubarb, Seakale, &c., of the most approved kinds.

Pear on Quince, Cherry on Mahaleb, and Apple on Paradise stocks—for Pyramids or Dwarfs for garden culture, and embraces all the kinds that succeed on those stocks.

Deciduous and Evergreen Ornamental Trees & Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of *extra size*; such as Sugar and Silver Maple, Chinese Ailantus, Horse Chestnut, Catalpa, European and American Ash, Three Thorned Acacia, Kentucky Coffee Tree, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well all the as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Araucaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews, Arborviteas, &c.

Weeping Trees.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, Weeping Japanese Sophora, Weeping Elms, (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Fern and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, &c. Also a large collection of choice Roses, in great variety of Hybrid Perpetual, Hybrid China, Hybrid Province, Hybrid Damask, Bourbon, Tea, China, Noisette, and Prairie, and other Climbing Roses, for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post paid applicants.

A large quantity of Arborvitæ for Screens, and Buckthorn Osage Orange, and other Hedge plants.

The above will be sold on as liberal terms as similar stock can be purchased elsewhere. For further particulars we would again refer to priced Catalouge. A liberal discount will be made to persons who buy to sell again, and extensive planters on their own account.

Newburgh, March 1, 1851—2t.

Prince's

Linnæan Botanic Gardens and Nurseries, Flushing, N. Y.

WM. R. PRINCE & CO., successors of Wm. Prince, and sole proprietors of his great collection, offer the largest and choicest assortment of Fruit and Ornamental Trees and Plants to be found in America, and will transmit Descriptive Catalogues to all post-paid applicants desirous to purchase. The choicest varieties of Fruits, which are scarce elsewhere, are here extensively cultivated, and applicants will not be disappointed. Every desirable Fruit enumerated by Downing, Manning, Kenrick, Hovey, and in the Catalogues of Europe, can be supplied. Of the finest varieties of Pears, 50,000 trees can be supplied, of which 15,000 are of bearing age, on both the Pear and the Quince. Purchasers are solicited to visit the establishment and judge for themselves, but the same attention will be paid to the selection for all distant correspondents. The prices are as low and mostly lower than trees of equal quality can be obtained elsewhere. And above five hundred varieties of Fruit Trees, and a much larger number of Ornamental Trees, can be supplied, that cannot be obtained elsewhere in the Union, except in a few casual instances. Every premium for Roses and Strawberries was awarded to us by the Long Island Horticultural Society.

A wholesale Catalogue will be sent to all Venders.

The transportation to the west is now moderate, and the Agent's Receipt will be sent to each purchaser, which will prevent the impossibility of loss. Cash or a reference can be sent with the order, by those who are strangers to us. March 1, 1851—2.t

---

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50.000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracey, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Fruit Scions for 1851.

THE subscriber will furnish Scions of the celebrated fruits of western New York, of the different varieties mentioned below:

Northern Spy.
Norton's Melon.
Early Joe.
Baldwin.
Ribston Pippin.
Red Canada.
Gravenstien.
Red Astrachan.
Lowel.
Porter.
Fameuse.
St. Lawrence.
Yellow Bell-flewor.
Swaar.
Westfield Seek-no-further.
Rambo.
Esopus Spitzenburgh.
Roxbury Russet.
Autumn Strawberry.
Green Sweeting.
Munon Sweeting.
Talman Sweeting.
Summer Rose.
Wagener.
Early Harvest.
Hawley or Dowse.

I will pack and send either by mail or Express at one dollar per hundred, orders post paid.

Virgalieu, Osband's Summer, Oswego Beurre, Onondaga or Swan's Orange, Pear Scions at 3s. per dozen.

N. B. In all cases where it is possible, I will send specimens of the Northern Spy apple. JAMES H. WATT.

Feb. 1—2t.

Agricultural Warehouse and Seed Store,

Quincy Hall, over the Market, Boston.

THE Proprietors having recently enlarged their Warehouse, and increased their works at Worcester, would respectfully invite the attention of Planters and Dealers in AGRICULTURAL and HORTICULTURAL IMPLEMENTS, GARDEN and FIELD SEEDS, &c., to their stock, comprising the largest and best assortment to be found in the United States, which are offered at low prices.

Of PLOWS—we have the greatest variety of kinds and sizes.

Improved Sod Plows, for flat furrows—improved Scotch Plows, for lapped furrows—improved Stubble Plows, which are especially adapted to deep tillage, or varying from 6 to 12 inches in depth.

Self-sharpening, Hill Side, Sub-soil, Double Mould, Corn, Cotton, and Rice Plows.

Cylinder Hay Cutters, Smith's Patent Lever Gate, and others. Patent Corn Shellers, with and without Separators. Seed Sowers, of various sizes and prices. Batchelder's patent Corn Planter, improved. Fanning Mills of various sizes. Horse Powers, Threshing Machines, thermometer Churns, Robbins' patent Centrifugal Churn, Cylinder Churn, Dash Churn, Corn Planters, together with almost every article wanted on the Plantation, Farm or Garden.

Illustrated Catalogues sent gratis on application, post paid.

RUGGLES, NOURSE, MASON & CO.

Boston and Worcester, Mass., March 1, 1851—2t.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

John Mayher & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultural Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels.

Poudrette—At the manufacturers' lowest prices.

JOHN MATHER & Co.

March 1—tf. 197 Water Street, New-York.

Great Books for Farmers, Gardeners and Horticulturists,

And a Rare Chance for Agents to make Money.

JOHN P. JEWETT & COMPANY, Publishers, Nos. 17 and 19 CORNHILL, BOSTON, take pleasure in announcing to the intelligent Farmers, Gardeners and Horticulturists of the United States, that they have at length completed their valuable collection of works on Agriculture, and its kindred sciences, and that the two last of the series are now in the hands of the stereotypers, and will be ready for delivery to subscribers and others on or before the first day of March. The two volumes now in press are, first,

Breck's Book of Flowers,

By Joseph Breck, Esq., of Brighton,

For many years editor and publisher of the "New-England Farmer," and one of the most distinguished Florists in America. This volume contains the results of the practical experience of a man of taste and science, and is, without doubt, the most thorough and reliable book, on the cultivation of Flowers and the laying out of Flower Gardens, to be found in any language; it is emphatically the Ladies' and Gentlemen's complete Floral Vade Mecum. This book will be in 12mo. form, containing about 336 pages, fine cloth binding, and we have determined to sell it at 75 CENTS, to bring it within the means of all, and to ensure a large sale, as it is a book which every lover of Flowers must own.

The second in the series is—

The Kitchen Gardener's Text Book,

By one of the most distinguished Gardeners of New-Jersey. This is truly a practical work, avoiding useless, and to the masses, unmeaning technicalities, the author handles his subjects with the skill of a thoroughly versed, common-sense practitioner. With the aid of this volume the merest Tyro may rapidly advance through the various stages of Horticultural knowledge, to complete success. A simple and practical and cheap work on this subject has long been needed. The price of this book will be 50 CENTS,—12mo., 216 pages, handsomely bound in cloth.

The third book is—

A Treatise on Hot-Houses,

By Robert B. Leuchars, Garden Architect.

This work, by Mr. Leuchars, who is one of the most distinguished among the many Scotch Gardeners of America, is a practical treatise on the

Construction, Heating and Ventilation of Hot-Houses,

including CONSERVATORIES, GREEN-HOUSES, GRAPERIES, and other Kinds of

HORTICULTURAL STRUCTURES,

with practical directions for their management in regard to LIGHT, HEAT and AIR. Illustrated with more than SEVENTY ENGRAVINGS. This is the first and only work of the kind ever published in this country or in Europe, and is recommended very highly by professors Silliman and Dana of Yale College, and by many other scientific gentlemen. Price one dollar. It is a very learned work, and an invaluable one to any person who owns, or who intends to erect, either of the structures on which it so ably treats.

The fourth book is—

MR. COLE'S GREAT WORK ON

THE DISEASES OF ANIMALS,

OR THE AMERICAN VETERINARIAN,

30,000 copies of which have already been sold, and the sale of which continues in a manner almost without a precedent. To every man who owns a horse, a cow, a pig, or even a hen, this work, by Mr. Cole, is of more value than ten times its cost.

The lives of many valuable animals have already been saved by following Mr. Cole's plain directions for their treatment when sick.—This is the cheapest work of the kind ever published in America, being but 50 CENTS at retail, and we do not believe that any farmer would willingly be without it, if placed within his reach.

The fifth book is—

MR. COLE'S OTHER VALUABLE WORK,

THE AMERICAN FRUIT BOOK,

Or, Fruits and Fruit Trees of America,

18,000 of which have been published in less than two years.

This beautiful and thorough work is illustrated by over 200 engravings. of Apples, Pears, Peaches, Plums, Cherries, Grapes, Raspberries, Gooseberries, Currants, &c. &c., and the various Fruit Trees of our country; also cuts representing the various modes of training vines and the different styles of grafting, budding, pruning, &c. It is a work which, for accuracy of description and reliability, has never been exceeded, if equalled, and contains more than twice the amount of matter of any other Fruit Book published in America at the same price, viz: 50 CENTS. We could fill a volume with the recommendations of Mr. Coles's two books, which we have received from the most eminent Farmers and Horticulturists of New-England, the Middle States and the great West.

A Word now to Agents.

We are new prepared to offer to capable, responsible, and energetic Book Agents, a chance for making money, such as seldom occurs. With the above five works, an agent of tact or ability could hardly fall upon a spot so barren that he could not dispose of one or more of these works, and in many cases would sell one of each; and in populous districts, a large number of copies could be sold daily. We intend to district out the New-England States, mostly into counties. Also, the States of New-York, Pennsylvania, New-Jersey, Ohio, and the Western States, we should prefer to dispose of, to some one individual in each state, for him to district out into sub-agencies.

The books will be ready for delivery by the 1st of March, and it is important that the various Counties and States should be disposed of before that time. A cash capital of $30 to $50 will be needed by every agent for a County, and a much larger sum by a State agent.

Address, post-paid, the Publishers, JOHN P. JEWETT & Co.,
March 1—2t. 17 & 19 Cornhill, Boston.

NEW AND VALUABLE PLANTS,

For the Nursery, Garden and Pleasure Grounds.

B. M. WATSON offers for sale at the OLD COLONY NURSERIES, PLYMOUTH, MASS., a very complete assortment of plants, including all those of recent introduction, consisting in part of *Pear*, Quince, Paradise, Mahaleb, Plum, Cherry and Apple stocks, at the lowest rates.

Young Trees, 3 to 5 feet high, in great variety, mostly at from $5 to $12 dollars per 100, of the finest deciduous sorts, for nurseries or young plantations, and *Evergreens* from seed, from 1 to 1½ feet.

Dwarf Pear, Apple, Cherry, Plum, Apricot and Nectarine. Trees in a bearing state, or nearly so, of the finest and best established sorts, at the usual rates.

Standard Trees of the same. Diana Grape, $1.

Scions of the best Apples, $1 per 100. Pears and other Fruit and Ornamental Trees and Shrubs, $2 per 100. In large quantities at low rates.

Currants, including all the new sorts. Raspberries, Gooseberries in great variety, and Rhubarb, at $1.50 per dozen—$10 per 100.

Strawberries, in 20 fine varieties, mostly at $1 per 100. Burr's New Pine, $2, Iowa, $2, Jenney's Seedling, $1.50 per 100. Richardson's Seedlings, (fine) 50 cents per dozen.

English Walnut, Spanish Chestnut, Filberts and other nuts. Black English Mulberry, (the best,) Medlars, &c.

Ornamental Trees, including many new and interesting varieties of Arabia, Æsculus, Ash, Beech, Birch, Cherry, Chestnut, Elm, Hawthorn, (12 var.) Laburnum, Linden, Magnolia, Maple, Oak, Plane, Willow, and many other genera.

Shrubs, including many fine sorts of Althea, Arbutus, Berberis, Calycanthus, Cheonanthus, Cotoneaster, Cytissus, Daphne, Deutzia, Hydrangea, Halesia, Pyrus, Ligustrum, Lonicera, Peonia, Philadelphus, Ribes, Spirea, Lilac, Tamarix, Viburnum, Xylosteum, and among others,

Forsythia viridissima,
Wiegela rosea,
Lonicera Ledebourii,
Chimonanthus fragrans
—— grandiflorus,
Lilacs, 8 fine sorts,
Spirea prunifolia, fl. pl.
—— Lindleyana,
—— Douglassi,
—— Reevesii,
Ribes albida,
—— sanguinea, fl. pl.
Pyrus, double crimson.

Evergreen Shrubs. consisting of Arbutus, Andromeda, Box, Euonymus, Gaultheria, Holly, Laurel, Juniper, Ledum, Menzeizii, Rhododendron, 8 sorts, Vaccinium vitis idara, Irish Yews, Evergreen Oak, Mahonia aquifolium, (excellent.)

Rare Conifers, including Deodar Cedars, one-half to three feet; Cedar of Lebanon, Araucaria imbricata; *Abies* Douglassi, Menziezii and Cephilonica; *Pinus* Austriaca, cembra, excelsia, gerardiana, halepensis, insignis, Lambertiania, Morinda, Mughus; *Picea* nobilis, picta, pindrow, spectabilis; *Thuya* filiformis, Chinensis; Cryptomeria japonica, Salisburia adiantifolia.

Vines and Climbers—Wistaria, (sorts,) Joy, Virginia Creeper, Aristolochia, *Clematis* azurea, flammula, Sieboldtii and others, Periploca, Climbing Roses, Honeysuckles, &c.

Calestegia Pubescens.—This new and beautiful climber, introduced recently from China by Mr. Fortune. proves perfectly hardy in New-England, having stood *the winter of* 1850 *in the grounds here*, without any protection whatever. Trained to a single pillar, say 10 feet in height. it is a very striking and beautiful object from the middle of June till cold weather, during which time it is covered with a profusion of its large double flowers of a delicate rose color. It is very ornamental, planted in patches like the Verbenas, and is very effective in young plantations, trailing prettily on the surface, and running among the lower branches of trees in a very picturesque manner. It is therefore particularly suited for Cemeteries and Public Gardens. Strong plants in pots, $1 per pair—$4 per dozen. Tubers for 100 plants, $5,—for 50 plants, $3, sent by mail or express at any time, with directions for propagation and culture.

Prairie and other Running Roses, Perpetual, Bourbon, Tea and China Roses, in great variety.

For Bedding out.—Chrysanthemums, (30 new varieties) and Dahlias, $2 per dozen—Verbenas, including Reine de Jour, Iphigenia, St. Margaret, Robinson's Defiance, and 20 other sorts, $1.50 per dozen—Fuchsias, a fine collection; Carnations and Calestegia pubescens, $4 per dozen—Scarlet and other Geraniums, Salvias, Veronica Lindleyana, Lobelias. Double white Feverfew; Heliotropes Souvenir de Leige, Voltairianum and intermedia, $2.50 per dozen. Ipomeas; Maurandia alba, rosea and Barclayana: Cobea, Lophospermum, Physanthes alba, &c., $2.50 per dozen.—Plumbago Larpentac, 50 cents—Cestrum aurantiacum, 50 cents—Asclepias curassavica, 25 cents.

⁂ Priced lists sent post paid, on application. ☞ Carriage of all packages paid to Boston. Plymouth, Mass., March 1, 1851—tf.

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country FRANCIS W. COWLES.
Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

Contents of this Number.

Notes on the Farming of Otsego County,	129
Memoirs of Col. Pickering, by J. W. PROCTOR,	131
Progress and Theories of Agriculture,	131
Ashes of Anthracite and Bituminous Coal, by Prof. NORTON,	136
Domestic Economy—Treatment of Scarlet Fever,	137
Stewed Apples—Whitewash—Preparations of Barley—Answers to Inquiries,	13
Management of the Kitchen Garden,	140
Suckers from Fruit Trees valuable, by C. E. G.,	141
Fruit Prospects for 1851, by C. E. G.—On Grafting, by D. D., Northern Fruit Trees, by R. T. ROBINSON,	142
Cuttings from Suckers—New Publications—Next Show of Royal Ag. Society,	143
The Babirussa—Improved Fence, by DEANE,	144
Premium Amsterdam Plow—Great Products of Wool,	145
Horticultural Plow—Seed Potatoes, by J. VAN DENBURGH—Ag. Reading, Root Culture, Deep Plowing, &c., by F. WHITING,	146
The Cayuga Lake, by DAVID THOMAS,	147
Feeding Stock, Large and Small Animals, Pigeon Weed, Manures, &c., by JOHN JOHNSTON,	148
Hussey's Reaping Machine, by OBED HUSSEY,	149
Not Giving Credit, by EDS. AM. AG'ST.—Wool and Gum, by E. BRIDGE,	150
Keeping Fowls and Value of their Manure—Increase of Chess,	151
Award of Premiums—Monthly Notices, &c.,	152

ILLUSTRATIONS.

Plans of Kitchen Gardens,	140
Grafting Tool,	142
The Babirussa,	144
Improved Fences,	144, 145
Amsterdam Plow, No. 7,	145
Horticultural Plow,	146

GREAT SALE OF SUPERIOR THOROUGH

Bred Short-horn Cattle.

THE subscriber, having more stock than can be sustained on his farm, will offer at public auction about 30 head of his Improved Short-horn Cattle, consisting of Bulls, Cows, Heifers, and Heifer and Bull Calves, on Thursday, the 26th day of June next, at his farm, 2½ miles from this city.

It is known to breeders of improved stock in this country, and in Canada, that the proprietor of this herd, during the past twelve years, has, through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a Herd of Cattle, from which superior animals could safely be drawn, for improvement and cross upon other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd it is well known, has recently been disposed of at public sale by his administrators, and dispersed in many hands, and can no longer be resorted to as a whole for improvement. The announcement of that sale created great interest, and all Short-horn breeders in England seemed emulous to secure one or more of the animals to mingle with the blood of their herds; and at the day of sale there was found assembled, the largest audience ever before witnessed on a similar occasion, numbering, it is said, from 4 to 5,000 persons; among them were the most eminent breeders in England, and several from other countries. Some of the animals bringing prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported Bull Duke of Wellington, and the premium Bull Meteor. These are Bates Bulls, and their reputation as stock getters, is too well known to need any comments. I am, however, authorised to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, have these two bulls been bred to Short-horn cows of other herds previously imported into the United States, but what the produce were superior in general qualities to such herds." The most of the stock which is now offered for sale, has been bred from these two bulls; and the proprietor having a young bull more remotely connected with the portion of the herd which he retains, (say about 14 in number,) he can now spare these two valuable Bulls. There will be in the stock offered for sale, six young Bulls, from 8 months to about 2 years old, in addition to the two above named; and the remainder of the stock will be composed of Cows, (most of them possessing extraordinary milking qualities,) Heifers, and Heifer Calves.

It is believed that no Herd of Short-horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals. A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., April 1, 1851—3t.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.

Fresh Garden Seeds, a large assortment of the various kinds. Also, Field Seeds.

Lawn and other grasses.

Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c.

Guano, *Bone Dust*, *Poudrette*, and other fertilizers

Prompt attention given to all orders by letter or otherwise.

March 1—tf.

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of FULL BRED SHORT-HORNS AND IMPROVED DAIRY STOCK, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved Dairy Stock, which is composed of the finest Short-horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short-horns.

I am now breeding the Short-horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the FIRST PRIZE as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my Imported Bull "Lord Eryholme," or my celebrated Bull "Lamartine."

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not as yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck "Babraham." Some of their Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous Herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25, (say twenty-five dollars,) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either of my Bulls, which he shall choose. I will give $25 for any heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent a distance, will be delivered on shipboard or railroad in the city of New-York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post, please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New-York, by Harlem Railroad. April 1.—3t L. G. MORRIS.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

☞ All subscriptions not renewed by payment for the next year, are discontinued at the end of each volume.

ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

N. ORR Sc.

E. F. Morton

TO IMPROVE THE SOIL AND THE MIND. Mortonville

NEW SERIES. ALBANY, MAY, 1851. VOL. VIII.—NO. 5.

Agricultural Schools.

Report of Massachusetts Commissioners.

The Legislature of Massachusetts, at its session of 1850, appointed a Commission for the purpose of considering the expediency of establishing an Agricultural School or Schools, in that state. President HITCHCOCK, of Amherst College, was one of the members of this board; and he, being in Europe at the time of his appointment, was requested to visit the institutions devoted to agricultural instruction in that quarter of the globe. The principal portion of the Report of the Commissioners, consists of the account given by President H. of his examinations of the Agricultural Schools of England, Ireland, Scotland, Germany, Switzerland, and France, with remarks and deductions from the facts obtained in the investigation.

Prest. HITCHCOCK has embodied a greater amount of valuable information on the subject of Agricultural Schools, than we have ever before met with, and for the important service he has thus rendered his countrymen, is eminently entitled to their lasting gratitude. He has given a comprehensive view of the European schools, the most celebrated of which he visited personally,—has pointed out their effects upon the agriculture of the countries and districts in which they are located,—with a summary, comprising an analysis of the various plans, showing their respective merits and defects,—and concludes with arguments demonstrating the necessity of establishing institutions for the improvement of agriculture in America, furnishing several simple and excellent outlines of plans.

Had we space, we should be glad to copy a large portion of the remarks to which we allude. We are obliged, however, to restrict ourselves to a few extracts, but would earnestly recommend an attentive and careful examination of Prest. HITCHCOCK's whole report, to all who wish to obtain a clear, practical, and common-sense view of the subject of agricultural education.

From Prest. H.'s summary of conclusions, we take the following:

VI. European Agricultural Schools have taught us some important lessons.

1. That these schools usually fail, if they do not receive efficient aid from the government.

2. That agricultural societies are not sufficient. These exist in all the countries above enumerated, I believe, and have done great good. But the conviction is very general there, that schools should be added to the societies; especially in countries where cultivation is a good deal deficient.

3. That theory is to be tested by practice; and such theories as will not sustain this test are to be rejected.

4. That these schools are doing very much to promote the progress of agriculture. This was the general testimony.

5. That to teach agritulture in the primary schools and academies is not sufficient. This does some good, but does not accomplish all that is desirable.

6. That agricultural professorships, in colleges and universities, are not sufficient. 1. Because lectures of this sort attract but few of the students of the colleges, who are looking forward to professional life. Such is certainly the case everywhere in Europe. 2. Because the two classes of students who would thus be brought together, would have too little sympathy to act in concert, and as equals, in the same institution. 3. Because, without such concert and sympathy, one or other of the classes of students would feel no pride in the institution; and without such an *esprit du corps* it could not prosper. 4. Because such professorships, unless numerous, would be entirely insufficient to accomplish the objects desired.

VIII. We learn that those agricultural institutions succeed best which are started and sustained by the mutual efforts and contributions of individuals, or societies, and of the government.

The schools in France, started by enterprising individuals, languished, and some of them failed, until the government lent an efficient hand. Very likely, the want of governmental patronage had something to do with the failure of the Hofwyl School, in Switzerland; and it struck me that the Agricultural College of England, at Cirencester, languishes for the same reason. It is said that in Wurtemberg, the schools succeed well, because the government started and sustains them alone. I know too little of their circumstances and condition to throw light on the subject. But sure I am, that, in this country, the mutual exertions of the government and the people will be essential to success; for this reason, if for no other, that here the people constitute the government: and if their representatives do not act in conformity to their wishes, their decisions will be reversed.

IX. We learn from European experience, that independent agricultural institutions are essential to accomplish the object which is aimed at.

1. Because the field is wide enough to require such establishments. The principles of agriculture are based upon a large part of the physical sciences; and it requires a good literary education to understand those sciences. No man can understand the principles of farming, who is not more or less acquainted with chemistry, anatomy, physiology, botany, mineralogy, geology, meteorology, and zoology; and then the practical part requires an extensive acquaintance with warious branches of mathematics and natural philosophy. Many important principles of agriculture can, indeed, be taught in the primary school or academy; but there should be, somewhere, institutions of a higher character, entirely devoted to a thorough instruction and investigation of the science of the subject.

2. Because it demands extensive collections of various kinds, in order to elucidate the principles of husbandry;

enough, indeed, to belong to any scientific institution, and too many to form a mere subordinate branch of some institution with a different object in view.

3. Because the number of instructors must be so large, that they could not conveniently form an adjunct to some other institution.

4. Because the interests of agriculture are large enough to demand an institution definitely consecrated to their promotion. No other art is so important, and, I may add, no other is so difficult to be successfully cultivated; and, therefore, every means possible should be employed to render it assistance.

X. Essentially the same reasons, and of greater force, exist for the establishment of Agricultural Schools in this country as in Europe.

1. It is the most ready and effectual mode of making farmers understand the principles on which good husbandry is founded.

Some have an idea that there are no such principles, and that the cultivation of the soil is a hap-hazard affair, and that guessing is as good a way as any, to secure good crops. I am aware that all the principles of managing land are not yet well settled, and that different circumstances often disappoint those who follow the best rules. But if there are no scientific principles on which husbandry is based, then one mode of farming is as good as another; a position which I am sure no reasonable man will take. And if one mode of tillage is better than another, there must be reasons for the difference, and those reasons are the very principles we are seeking after. Now it will be the leading object of agricultural schools to discover these principles, and to apply them in such a manner as to satisfy others that they are safe and valuable. Another object of such schools is, to detect and disprove, both theoretically and practically, any false principles and practices that may have been adopted by the community as true. The sons of farmers, who attend these schools, will learn to distinguish the true from the false principles, on this subject; and, on their return to the paternal roof, will communicate their knowledge, and apply it in practice.

In relation to the course to be pursued here, in reference to this subject, it is asked:—

What shall be the character of the Agricultural Schools, should any be established in Massachusetts? This difficult inquiry I would meet by a few suggestions. But after the survey that has now been taken of agricultural education in Europe, it cannot be expected that I should recommend, or that the community will be satisfied, with schools of an inferior class. Twenty, or even ten years ago, it might have answered to propose the introduction of agriculture into our primary schools, or as a department in our academies, or a professorship in our colleges. All this it may be well enough to do now, but something more must be done. So Europeans judge, and accordingly, as we have seen, they have started institutions with as ample a foundation, and as numerous a body of instructors, as we find in most of our American colleges. Nothing short of this, as it seems to me, will be sufficient for our country; nay, I fancy that at least one such superior institution is needed in each of our states. The work to be done is too great, the number of teachers is too many, and the amount of various collections too large, to attempt to attach an agricultural school to some other institution, and that too as only a subordinate branch. Even if agriculture is taught in our colleges, academies, and primary schools, it needs some one institution devoted entirely to the subject, to give effect and completeness to the subordinate teaching, and to carry it still farther; otherwise the agricultural knowledge will be as the literary would be, if the universities and colleges of the land were taken out of the way, and only the primary schools and academies remained.

But though our community, as I believe, especially the intelligent farmers, are prepared to appreciate the importance of such superior institutions, I fear but few are ready to devote the amount of funds requisite for putting such a seminary at once into full operation. Nay, none but those who have had experience know how large an amount of money it requires, with the strictest economy, to found and carry on successfully a large institution of learning. My hope is, however, that the government and the people will start this enterprise, if they do it at all, with a high standard in view, even though they cannot, till a considerable period, reach the height of their wishes. It seems to me that to aim much lower than the plan which follows, will be likely to make the whole subject, ere long, contemptible, or at least a failure.

Outlines of a Plan for Agricultural Education in Massachusetts.

I. Let an Agricultural School or College of the superior class be established somewhere in the state, possessed of all the means (teachers, books, apparatus, specimens, farm, &c.) necessary to give a finished education in the principles and practice of agriculture. Such a school, it seems to me, should embrace the following particulars, at least:—

1. A school of instruction, by lectures and recitations, in the following branches:

a. Practical agriculture.
b. Chemistry, elementary and applied.
c. Natural history, especially zoology and botany.
d. Elementary and applied mineralogy and geology.
e. Anatomy and physiology, human and comparative
f. Veterinary medicine and surgery.

2. Collections of the following description:—

a. Models of agricultural instruments.
b. Of dried seeds.
c. Of dried grasses, grains, &c., entire.
d. Specimens planed, of useful kinds of wood.
e. A pomological collection, or models of the varieties of fruit.
f. Small collection of simple minerals and rocks for elementary instruction in mineralogy and geology.
g. An economic collection, embracing all the minerals, rocks, fossils, soils, marls, clays, &c., useful in the arts, exhibiting them in their various stages of preparation, with specimens of the finished articles, constituting what in Europe is called a museum of economic geology.

I saw three such collections in Europe; one at the School of Mines in Paris; one in London, the fruit of the Ordnance Survey; and one in Dublin, having the same origin; the two latter not yet opened to the public, but very choice and splendid collections. They must be very serviceable for all the arts.

h. Insects injurious to vegetation.
i. Stuffed specimens and drawings of the species and varieties of animals useful in agriculture.
k. A museum of human and comparative anatomy, including a manikin.
l. Chemical and philosophical apparatus.
m. A scientific and agricultural library.

Some of these collections are more important than others; but they would all be of service, and tend to give permanence to the institution. To procure and arrange them would require a long time, but they might be begun at once. I saw all of them, larger or smaller, in some of the agricultural schools of Europe, though nowhere at the same school. Indeed, many of those schools appeared to me to be quite deficient in collections, and I thought this one cause why they were in a decaying state. When literary institutions are called, as they often are, in the early part of their course, to pass through seasons of storm, good libraries, and ample apparatus, and collections, form one of the best of anchors to enable the vessel to outride the tempest.

3. A model and experimental farm of moderate size, and instruction in practical farming. I see no use in a large farm, as in general a small one, say of 100 or 200 acres, will embrace every important variety of soil, and can be more easily managed. It seemed to me that some of the European schools have farms so large as to be unwieldy.

4. Provision for instruction in Ancient and Modern languages. Such studies should not be required. But some might wish to get a little knowledge of Latin and Greek, in order to become better naturalists, and understand better the scientific terms in agriculture; and oth-

ers would wish to acquire French or German. Such instruction would be no cost to the state, as teachers might be found near at hand, most probably, in almost any part of the state, and it would render the school more attractive and respectable. It has been seen that such instruction is provided in some of the schools in Europe. It might be well, also, to provide similar instruction in the higher mathematics, as is done frequently in Europe.

5. Provision on the farm for the board of those students who are willing to devote their time to labor daily beyond what is required of all. For these extra labors, in my opinion, a compensation should be given, such as should at least meet the charge for board. This might enable many poor but worthy young men, to enjoy the benefit of the institution, who would otherwise be deprived of the privilege.

6. Number of Instructors Necessary.

1. A professor of horticulture, sylviculture, and rural legislation, who should be also chairman of the board of instructors, or president of the institution.
2. A professor of agriculture.
3. A professor of elementary and agricultural chemistry.
4. One of natural history and geology, who should be curator of the collections.
5. One of anatomy, physiology, and veterinary medicine, and surgery.
6. One of the mathematics of agriculture, such as farm accounts, irrigation, draining, surveying, leveling, construction of roads, bridges, &c.

This appears to me the smallest number of professors with which an institution could be respectable and useful, even at its commencement. The number is much less than it is at nearly all the higher agricultural seminaries in Europe. There it ranges from eight to twenty.

Besides the professors, there should be a superintendent of the farm, and of all practical operations of the establishment, who might also give some lectures, say on practical agriculture.

If one of the professors should be a clergyman, he might act as chaplain of the establishment.

7. The course of study should embrace two years. When creditably finished, the pupil should be entitled to an agricultural diploma or degree.

8. For admission, an examination should be required, in English grammar, geography, arithmetic, and Euclid's Elements of Geometry, at least the first five books. This may seem a high standard. It is higher than most of the schools in Europe. But the young men of Massachusetts, even the poorest, can easily come up to it, and thus make their subsequent course much more profitable. One great complaint in Europe is, that the pupils are unable, for want of early education, to understand the instruction.

9. The tuition should be as low as possible, certainly not higher than at the existing colleges of the state, and that is about $40. As soon as possible the instruction should be gratuitous.

10. Several scholarships, say as mnay as ten to begin with, equal at least to the tuition, should be founded by the State, to be given to the most diligent and successful pupils. Also, several prizes of a smaller amount should be offered.

This is the almost universal practice in Europe, and its operation is excellent.

11. Provided individuals shall offer ten acres of good land, to be improved as a model farm, by some academy, let the state give to that academy (not more than to one in each county,) at least $200 for instruction, and $50 for a library; provided said academy shall agree to cultivate the land, and provide for a department of agriculture: the aid from the state to be withdrawn, however, when the number of students in agriculture shall be less than ten.

12. Let a manual of agriculture be prepared by some competent person, or some existing manual be adopted, and introduced into the primary schools, if any children wish to study it. It might be well for the state to furnish the books gratis.

13. One object of these schools of a lower grade should be to prepare pupils to enter the central institution, in advanced standing, if fitted for it.

14. By the addition of a single professorship of technology to such an institution as has been described, and extending the collection of instruments to those of every art, this school might become a school of mines, as well as of commerce and manufactures, and thus afford an education to the son of the mechanic and merchant, as well as the farmer.

I do not, however, recommend that such an addition should be made at the outset, lest by aiming at too many objects, the whole be lost, as we have seen to have been the case sometimes in Europe.

15. Let the state appoint a Board and Secretary of Agriculture, who shall sustain the same relations to that interest and the schools connected with it, as the Board and Secretary of Education do to primary schools.

Two other outlines of plans are submitted, varying in several respects from the above—the principal object in the variation, being to lessen the expense in the outset. The second plan proposes that the school be "located so near some existing literary institution, that the pupils could have the benefit of its scientific lectures, and study its collections in natural history." This connection is only suggested as temporary, or to continue "until the state should be ready to endow a full corps of professors, and make the proper collections," &c.

The third plan proposes a Board of Agricultnre, as provided in the first, this Board to have the following, among other powers:

1. To appoint a secretary, one of whose duties for the present should be, to aid in the establishment of agricultural schools, and he should also be expected to give a course of lectures in the central school, should such a one be established, and his services be required.

2. To appoint a president of such central school or college, with a salary of $1,200, who should also be a professor in some department of the same; also to appoint a professor of agriculture in the same, with a salary of $1,000. Also, a superintendent of the farm, with a salary from $800 to $1,000.

3. These four officers, the president, secretary, professor of agriculture, and superintendent, should have power with the board, to select a site for such college, and purchase a farm containing from 100 to 200 acres, provided the following conditions could be realised:

1. If the school can be located near enough to some existing literary or scientific institution, for the pupils to attend its lectures, and study its collections of natural history, it being understood that admittance to those lectures and cabinets shall be gratuitous, or nearly so, and that the lectures embrace the following subjects: 1. Chemistry; 2. Botany; 3. Mineralogy: 4. Geology; 5. Zoology; 6. Anatomy, and physiology; 7. Natural philosophy.

2. If the friends of agricultural education in the place where the school is to be located, or in other places, shall raise a sum for the purchase of a farm, and sustaining the school, equal to the sum appropriated by the state, which sum shall not exceed $20,000, nor be less than $15,000; that is, the State shall not be called on to pay over $20,000 in any case to establish and carry the school through the first year.

Sketch of Putnam County, New-York.

Editors Cultivator—The county of Putnam in this state, is, I believe, but little known out of its own immediate vicinity. There are, perhaps, many reasons for this. One is, its size—being small, it does not hold so prominent a place among the other counties. It was originally a part of Dutchess, and was set off from it. By some chance or other, our Dutchess neighbors managed to keep the lion's share; but, as through their generosity, or from other canses, we became a separate *lit-*

tle Republic, having our own court-house, &c., we ought not to complain.

A glance at the map will show the surface of our county considerably dotted with the usual signs, which on a map signify mountains; and a visit here would show the traveller that we have not been slandered in this respect. This is truly a mountainous county; but amid the mountains are fertile spots and tracts of country, that will equal any part of our state in productiveness. Of these portions I shall, at another time speak. My present purpose is simply to introduce you and your readers to Putnam county.

How often do we find people travelling abroad, to far distant lands and climes, for the purpose of viewing rich and varied scenery, while they are either ignorant of, or do not care to visit that which is almost within their grasp. Here, within 50 miles of the great metropolis of the United States, is a portion of country that, in the grandeur, wildness, and beauty of its scenery, will vie with the accounts we read of many parts of California and Mexico.

I have said this is a county of mountains, but it is a county of lakes, too. Wander with me in spirit, as I hope you may one day do in person, to the top of the mountain which is just one mile from my dwelling. We will suppose it a fine spring morning. Arrived at its summit, what do you behold! Turn your eyes southward and westward, and the hills, vallies, and rolling lands, and the beautiful Lake Mohegan of Westchester county, meet your eye. Further off, about six miles distant, you see the noble Hudson winding its way through the Highlands, whose shaggy brows are reflected in the deep water that laves their base. For 20 miles and more, you see that beautiful river, studded with white sails, with here and there a steamer gliding over its tranquil bosom. But, alas, the latter grace not the Hudson's waters as they did. The scream of the whistle, and the rattle of the cars, as the sound echoes through the mountain passes, and falls upon the ear in the silence of the morn, tells the requiem of the steamer, for the present, at least. And yet we mourn not that it is so. This is the utilitarian age, and before it, romance must fade away or be turned into reality. How short a time is it, comparatively speaking, since the first steamer ascended the Hudson's waters, and when the triumph over sloop navigation seemed apparent, no doubt many a man viewed them with a jealous eye, considering them as much an innovation as many a steam-boat owner now thinks the railroad on the Hudson's margin; but still, that river now teems with sloops, and so too, at no distant day, will it again teem with steamers. Truly, there is no "fighting against destiny." The spirit of the age is onward, and in its rapid march there will be found enough for all to do.

But pardon my digression. Turn your eye eastward, and some of the finest agricultural portion of this county is before you. In the distance, about nine miles, lies Lake Mahopac, at an elevation of 1,000 feet above the Hudson, (some estimate it at 1,500 feet.) This lake is three miles long, and about nine miles around it; its depth is great, equal to that of Ontario or Erie. Like most of the lakes in this section, it has an outlet but no inlet, and is formed from springs in the bottom. Its water is so pure and clear, that objects can be distinctly seen at a depth of 30 feet. It has several islands in it; one containing a number of acres. Mahopac, for some years past, has become quite a resort for New-Yorkers and others, seeking the cool and wholesome air of the country, during the hot months of summer.

Turn northward. What a field for the study and contemplation of the geologist lies before us. Mountains of conical shape rise in every direction. What have they been? How came they there? Were they once the craters of volcanoes, that poured forth their melted lava on every side, but which have been extinct for ages? Certain it is, that no ordinary commotion has been there, whether it has been caused by fire or water. Embosomed in those mountains are several lakes. One, lake Conaope, is little if any inferior to Mahopac in beauty. It is about two miles long and three-quarters of a mile wide. Far away in the distance, you see the mountains of Fishkill, and farther, far as the eye can reach, appear the majestic group of the Catskills, breaking upon the eye like the dark cloud on the horizon of a summer's twilight. Such is one view, among many, to be found here. But you may say, what has all this to do with agriculture? Directly, perhaps it has nothing; indirectly it has something.

Many a man, doubtless, has grown up from boyhood amid such scenes, and never once, while gazing on them, has felt his heart beat with emotion; but nothwithstanding this, move him from his mountains, and ought else seems tame to him. This attachment of man to a mountain land, when that land has been his birth-place, has been told over and over again in the pages of romance and of history. A good and wise Providence, dispenses his favors with an evener hand, than we are apt to think at first sight; and he has given to the mountain-land some advantages not generally met with elsewhere. Health, that first and greatest of blessings, is generally found there. Water, the purest and best, flows in rippling rills over the hill-sides and through the vallies. There is no stagnant pool or sluggish stream there to breed disease, which mars with its dread power the beautiful residences of the low-lands.

I have known men to wander to the valley of the Mississippi, but they came back again. I have known men to wander to the prairies of the far west, but they came back again; they sighed in secret for their blue hills and crystal streams. They sighed for the healthy air of their native land.

A stranger occupying, what would seem to the eye, a far more highly favored agricultural district, free from rocks and stone, would wonder how the men of the mountains obtained a livelihood; but it is a fact that while in many agricultural districts, farmers have, comparatively speaking, nothing to sell but once a year, these men always have something—a little wood, a load of bark, a few chickens, a tub of butter, a colt or a yoke of oxen; and by the by, the latter, for working purposes, are among the finest and best broken cattle that I ever saw. They are strong and hardy, and seem formed by nature to perform the work of the country of which they are natives.

Land is valued low in the mountains. Mountain farms, as they are called, can be bought at from five to ten dol lars an acre; a man with small means even can buy 100 or 200 acres; this gives him quite a scope for raising stock, keeping a dairy, or fattening cattle; and as much of that land he buys for 10 dollars an acre, is really worth, for grazing or dairy purposes, as much as that where land is smoother and readily sells for 50 to 60 dollars per acre, he is much the gainer, as his outlay of capital is so small. Though the plowing is rather rough, the crops when once got in and well tended, yield abundantly. I have seen very fine crops of corn, oats, rye and buckwheat, grown on these farms, and I am inclined to think, that for the actual amount of capital invested, about as much money is made upon them as upon most other farms, when subjected to the ordinary mode of culture only.

Science has not done much yet for the dwellers in rough sections of country, but let not the occupants of those portions despair; the day must and will come, when every serious obstacle to the success of the agriculturist, will disappear before the inventive genius of our American mechanics. The tide of emigration may for a time set westward, but with the rapid increase of our population, many years will not roll over our heads before it will be found better and cheaper to stay where we are, and improve our soil, rough though it be, than to leave our homes for a strange land.

But Putnam county is not all mountains; there is many an oasis here, where the eye can rest with pleasure upon finely cultivated farms. Of some of these, I shall occasionally, if agreeable to you, give you sketches, as I know no better way to disseminate useful information about agriculture, than to give notes of the plans and operations of those who are engaged in that calling, and who look to it for a livelihood. My object will always be to find out those men who, with the smallest outlay, have reaped the greatest profit, and whose farms show the effect of skill and good management. Yours truly, H. C. W. *Putnam Valley, N. Y., Feb.* 22, 1851.

Progress of Agriculture.

Causes of Improvement.---No. 5.

Many of the improvements of which we have spoken in preceding numbers, are of a very important character. They have extended the sphere of agricultural knowledge, and enabled the farmer to pursue his occupation with increased advantages, and greater certainty of reward. In view of these results, who would willingly be thrown back to the point from which we have advanced within the last fifty years? or who can regard the cost of those improvements as worthy to be compared with the benefits, past and prospective, which they have produced?

We propose now to notice some of the causes which have occasioned the advance in agriculture to which we have called attention; and shall conclude with some suggestions in regard to other objects, to which efforts for further improvement should be directed.

The principal causes in producing the improvements to which we have alluded, have been Agricultural Societies and Agricultural Publications. Neither of these causes has existed a very long time. In our own country, we recollect but three agricultural societies which had their origin previous to the present century, viz: the Philadelphia Society, organized in 1785; the New-York "Society for the promotion of Agriculture, Arts and Manufactures," organized in 1791, (incorporated 1793,) and the Massachusetts Society in 1792. The increase of these associations was very slow, and they did not become common in any of the states, till they were encouraged by legislative patronage, which has not been generally extended till within the last twenty-five years.

It is to the stimulus exerted by agricultural societies through the medium of their exhibitions, that their influence in originating improvement has been chiefly felt. These exhibitions are of quite modern date. The first in the country was held at Pittsfield, Berkshire county, Mass., in the Autumn of 1810. The society in this county was organized the following winter. The next exhibition was that of the Massachusetts Society, and took place at Brighton in 1816. The latter was the commencement of a series of exhibitions, which from the liberal premiums offered by the Society, and the extensive competition which was thus created, were productive of great benefit to the country.* This Society was the first in America to institute plowing-matches and trials of plows, (the first having been held at Brighton in connection with the annual exhibition of 1817,) which were the means of effecting some of the most important improvements the plow has undergone. The Society imported various patterns of the English and Scotch plows, which were here tested in competition with the different kinds of American manufacture—a comparison which brought out the defects and excellencies of each, and suggested to our mechanics many useful ideas which they immediately carried into practice in the construction of their implements.

But this is not a solitary instance of the influence of agricultural societies in producing improvement; the same beneficial results have been experienced in most other departments of agriculture. The public exhibitions have brought together the various products of the farm,—the different species and varieties of live stock, the grains, vegetables, fruits, butter and cheese, as well as implements,—and afforded the opportunity of making proper and useful comparisons. Perfection in all these things is only comparative, and the farmer and mechanic can form no correct idea of the real merits and value of their animals or articles, but by a critical comparison with others which are deemed to possess excellence. The facilities which agricultural exhibitions have afforded in this respect have been very great, and they have in this way been the means of originating and disseminating improvements, the value of which are beyond estimation.

In bestowing this commendation upon agricultural societies, we are not insensible to the fact that they have sometimes been mismanaged—that their organization and administration are always more or less imperfect—but these objections do not affect the main point, which is, that they are capable of being made most important aids in the cause of improvement.

---

* Among other enterprises which were early encouraged by this Society, was the offer of a premium of $500 for the introduction of the first five rams and ten ewes of the Merino breed. This was the means of many being imported.

But the most potent engine, probably, in the progress of agriculture, has been the PRESS. This has not only been the grand focus for the collection and dissemination of light, but by bringing mind in contact with mind, and giving direction and stimulus to mental effort, it has elicited *new* light, and brought to view truths of the highest value.

It is true, that publications on agriculture, of one description, are not new; volumes were written on the subject many years ago, and have been issued with increased frequency down to the present time. These have been highly useful as embodying the results of past experience, and furnishing guides for general practice. *Periodical* publications devoted to agriculture, are, however, of comparatively recent origin. Thirty years ago, there was only one in the United States, and it is but a few days since the enterprising founder of that one, (the late JOHN S. SKINNER, Esq.,) was laboring among us with unabated zeal. Scarcely twenty years have elapsed since the effects of these publications became visible in the country; yet in the brief period of their existence, they have doubtless contributed much of the power by which the improvements which mark the nineteenth century have been accomplished. Besides disseminating knowledge previously acquired, it is the special office of periodicals to record new facts, as they are from time to time developed; to suggest new ideas, and to discuss and elucidate unsettled questions. They furnish a medium through which farmers have a mutual interchange of views on the various points of husbandry, and subjects therewith connected. This interchange awakens and sustains a general interest in agricultural affairs. It arouses the mind of the farmer, stimulates him to investigate the principles of his calling, and to labor with greater energy. It has been well remarked in regard to these vehicles of communication, that "they inform us of the progress of our art in various districts; they refresh the memory, brighten the intellect, and improve the mind; they are vast stores of *facts*, from which many useful lessons may be learned by the studious farmer." They are, as another writer observes, "what the political sheet is to the politician; the commercial journals to the merchant—indispensible; and that farmer who does without at least one of these publications, must soon lag behind his fellows, in all desirable improvements; must soon be behind the intelligence of his age."

These publications, by their circulation through all parts of the country, have nearly revolutioned the public mind in regard to the relation in which agriculture stands to the other industrial interests. Farmers have been led to see that their vocation is not a menial drudgery, but that the cultivation of the earth is worthy to be dignified as a science. This elevation has infused into the agricultural class, a spirit of pride and satifaction, and given a strong impulse to the cause of improvement. So long as the rural population looked on themselves as occupying an inferior social position, little advance could be made in the "improvement of the soil or the mind." The eradication of this error was, therefore, the first and most essential step, and this was effected by inducing farmers to read and observe, by which they acquired that knowledge which imparts power and inspires confidence.

The Wheat Crop of New-York.

Professor JOHNSTON, after his return from America, gave an address to the East-Berwickshire Farmers' Club, in which, among other remarkable expressions, he is reported to have said—"You have all heard of the famous wheat of Genesee, where the land is more fertile than in any part of Great Britain; and I learned there that they are laying the land down to grass, because they cannot afford to grow wheat." In the same report of this address, we find the following: "In New Brunswick, Vermont, New-Hampshire, Connecticut and *New-York*, [we italicise] *the growth of wheat has almost ceased*, and is now gradually receding westward."

It is hardly to be expected, that a foreigner, who spends but a few months in the country, and whose opportunities for observation are limited to a small portion of the territory, will be able to obtain a thorough and minute knowledge in reference to its agricultural or other resources; but an honest regard for truth would certainly prompt to the exercise of caution, in all statements of an important character. But making due allowance for all the circumstances, these expressions of Professor JOHNSTON are less calculated to excite surprise, than those of a similar nature which have been made by some of our own countrymen, whose position gives to their opinions more or less weight with the public. Thus Prof. MAPES, in the *Working Farmer*, asserts that "the wheat crops of New-York are *less than half*, per acre, what they were thirty years ago." Mr. SKINNER, of the *Plow, Loom and Anvil*, regards this assertion as coming from "very high authority," and adds in "confirmation" of it, that the Hon. WILLOUGHBY NEWTON, in a late address at Baltimore, stated that the wheat crop in "the Genesee valley has fallen in production from *twenty-five* to *ten* bushels per acre."

Now we regard these assertions as entirely unwarrantable, and notwithstanding the difficulty of proving a negative, we believe it can be shown that they have no real foundation. We think the history and results of wheat growing in this state, may be briefly stated as follows:

When the country was first settled, and while the virgin fertility of the soil remained, good crops of wheat were generally obtained at little expense; but from the imperfect and exhausting tillage which was practiced, the yield gradually declined till within a comparatively few years. This retrograde tendency has been arrested by improved cultivation, and the average yield, for several years, in the principal wheat growing districts, has been steadily increasing, and is now greater than it was when the soil was first cultivated.

We are confident that the testimony of those who are best acquainted with the subject, will support this view; and though we are not in possession of such extensive data as would be desirable, we can offer some evidence which bears directly on the point.

At a discussion on the subject of wheat culture, which took place at the rooms of the New-York State Agricultural Society, in 1850, Lieut. Gov. PATTERSON said—The wheat lands in the Genesee valley, when new, produced about *fifteen* bushels of wheat per acre. They were plowed shallow—the farmers had not generally sufficient strength of team to plow deep; now they plow much deeper than formerly, and obtain from *twenty-five to thirty* bushels per acre. In Livingston county, *thirty-five* bushels per acre, were obtained on some farms. His own wheat crops have sometimes been *forty* bushels per acre—has raised *thirty* bushels per acre, on sixty acres.

Mr. Lawrence, of Yates county, said the wheat crops in his neighborhood had been increased in yield by good cultivation. On his own farm, the yield, when he came into possession of it, was from *twelve* to *fifteen* bushels per acre. He had brought it up to *thirty* bushels per acre—raised *forty-four* bushels per acre on sixteen acres, in 1846. The crops in Yates county were generally good.

Mr. Cowles, of Onondaga county, said the oak and chestnut timbered land was generally considered best for wheat. Thirty years ago this kind of land was deemed good for nothing. It was formerly plowed about four inches deep, and did not produce well; now it is plowed from seven to ten inches deep, and the crops are good, and the land is growing better.

The same subject was alluded to at one of the agricultural discussions here during the past winter, and the fact that the average yield of wheat in this state was yearly increasing, was abundantly supported by the testimony of Hon. Mr. Geddes of Onondaga county, Judge Miller of Rochester, Mr. Pardee and Mr. Stacy, of Ontario county, and others. One of the speakers alluded to the fact, that according to the returns of wheat and flour received at Buffalo, Oswego, and tide water on the Hudson, in 1850, there must have been an increase of production in this state, over 1849, equivalent to 150,000 barrels of flour, and 1,900,000 bushels of wheat; and it was conceded by all, that after making reasonable allowance for the better season of 1850, over that of 1849, for the wheat crop, there would still remain a very great amount for 1850, over any previous year.

Another example in reference to the increase of the wheat crop, may be given in the county of Seneca, and this might, probably, be taken as an index to other wheat growing counties in the state, though the increase may not, in all cases, have been as great. According to the statistical returns of the state for 1845, the average yield of wheat in the county of Seneca, was *fifteen* bushels per acre.* In 1850, an agricultural survey of the county was made by John Delafield, Esq., now president of the New-York State Agricultural Society. In his report of that survey, to be published in the *Transactions*, the average yield of grain is set down as follows: wheat 20, barley 21, oats 38, rye 12, buckwheat 17, and Indian corn 32 bushels per acre.

Here we have an average gain in the wheat crop, of *five* bushels per acre, since 1845; and that this is not exaggerated, is evident from Mr. Delafield's remarks—"It is well known that the usual crops of a careful cultivator, are usually over 25 bushels of wheat per acre, 32 of barley, 45 of oats, 20 of rye, 20 of buckwheat, and 60 of Indian corn."

In view of this testimony, we think there cannot be a reasonable doubt that the yield of the wheat crop of the state of New-York is increasing, and that this increase is caused by the introduction of better modes of culture. By this result, also, we are encouraged to persevere in thorough and systematic husbandry, confidently anticipating still greater rewards for well-directed labor.

---

* The average for the state, by the returns of 1845, was fourteen bushels per acre.

"Architecture of Country Houses."

An elaborate and able review of Mr. Downing's late work on the "Architecture of Country Houses," &c., from the pen of N. H. Eggleston, appears in the New-Englander. After a general consideration of the subject of "Domestic Architecture," the writer proceeds to notice the work referred to in the following terms:

"This leads us to the consideration of a volume, the title of which is at the head of this article, and which, with its kindred volumes from the same author, has marked an era in the bibliographic history of our country. What further remarks we have to make in regard to the general subject, we shall throw into the form of a notice of this book. Mr. Downing has here given us a work which would much more appropriately appear as a volume of the 'Smithsonian Contributions to Knowledge' than that thin quarto of Robert Dale Owen, the chief value of which appears to be in its showing what book-makers can do with clean cut type and fine paper, and in giving, by means of its engravings, to those who are not likely to visit the city of Washington, some idea of a structure which has arisen there as a monument to the generous liberality of a foreigner. In the volume now before us, on the contrary, we have something of a different sort, a book not to be laid away upon the shelves of public libraries, or to be distributed according to the judgment or caprice of a publishing or executive committee, but to be had and studied by all, from Maine to Oregon, who are willing to pay a reasonable price for it. It is not either, as many perhaps would judge from its title, a book designed for the comparatively few who are about to engage in the work of building, but it is a book for the many, for all indeed, whether in city or country, who have a house to live in. It is an attempt to set forth the architectural principles, and, to no small extent, the laws of taste which are applicable to domestic life. Aside from its mere designs, which constitute by no means its chief value, its principles and suggestions are alike adapted to domestic life everywhere. The book is eminently a 'contribution to knowledge,' a contribution of just such knowledge as is wanted, and the general communication of which to the minds of our wide spread population would accomplish an inestimable service. We thank the author for this, his most recent work, and accept it gratefully as another gift to his countrymen from one whom they have reason to account a public benefactor. If he had lived in old Rome and done as important a service as he has done for us, the Senate would have honored him with a vote, "that he had deserved well of the Republic."

Mr. Downing has sent forth his book bearing the very modest title, "Country Houses," and those who have not made themselves acquainted with the volume will be likely to gather from its name that it has to do chiefly, if not exclusively, with the abodes of our mere farmers, and is occupied with suggestions in regard to the construction of farm-houses and barns, dairy-rooms and cattle stalls. This is far from being the case. Mr. Downing is one of those who accept the saying, "God made the country and made the town," and who consequently regards the open fields, in distinction from the narrow closes of the city, as the place for true living, and where Domestic Architecture is to have the theater of her labors and the full realization of her blessed accomplishments. Accordingly, when our author treats of Country Houses, he treats of all dwellings which have their location without the range of the inspectors of streets and sewers. From the humblest home of the cottager upon some scarcely known hill-side, to the baronial mansion that flanks the majestic Hudson, nor suffers by any want of keeping there, the book now under consideration has something appropriate to every site and to every structure pertaining to the dwelling-place of man. Nor is the author's attention confined to the mere architecture of these various edifices. Beginning with the principles which should guide in the selection of a site, and embracing not only the general style of architecture, but the more particular arrangements, both of the grounds without, and the furniture within, his attention is directed to all that pertains to the material comforts of home.

No one, indeed, who is conversant with the previous writings of the author would expect anything less than such a work as this from him. He has made Rural Architecture and Landscape Gardening, or the proper disposal and embellishment of the surroundings of home, his own peculiar province; and where he leads, the many may follow without hesitation. His book is all the more valuable and trustworthy also, inasmuch as Mr. Downing is not a professional architect nor a practical builder, and so does not advertise his own wares or offer his services to the building public for hire. He simply comes forward, after much study and experience in regard to the subject of domestic life and dwelling-places, to present certain practical suggestions in regard to it. Having no theory to advance, and no particular order of architecture to defend or glorify, he comes as the general adviser of his fellow-men in regard to that which intimately concerns their comfort.

He begins his book with a preface assigning "Three excellent reasons why my country-men should have good houses." The first is, "Because a good house (and by this I mean a fitting, tasteful, and significant dwelling) is a powerful means of civilization." The second is, "Because the *individual home* has a great social value for a people." In assigning this reason, he makes the following declaration which is well worth consideration: "It is the solitude and freedom of the family home in the country which constantly preserves the purity of the nation, and invigorates its intellectual powers. The battle of life, carried on in cities, gives a sharper edge to the weapon of character, but its temper, is, for the most part, fixed amid those communings with nature and the family, where individuality takes its most natural and strongest development." The third reason offered is, "Because there is a moral influence in in a country home—when, among an educated, truthful and refined people, it is an echo of their character—which is more powerful than any mere oral teachings of virtue and morality." Our author proceeds to remark farther, "That family, whose religion lies away from its threshold, will show but slender results from the best teachings, compared with another where the family hearth is made a central point of the Beautiful and the Good. And much of that feverish unrest and want of balance between the desire and the fulfillment of life, is calmed and adjusted by the pursuit of tastes which result in making a little world of the family home, where truthfulness, beauty and order have the largest dominion. The mere sentiment of home, with its thousand associations, has, like a strong anchor, saved many a man from shipwreck in the storms of life. For this reason, the condition of the family home—in this country where every man may have a home—should be raised, till it shall symbolize the best character and pursuits, and the dearest affections and enjoyments of social life."

Our readers will see from these liberal extracts from a preface of but moderate length, the drift and aim of the author without the necessity of further explanation on our part. Passing then at once to his subject, Mr. Downing enters upon an inquiry into "The real meaning of Architecture." In the prosecution of this, he discusses at some length the philosophy of the art, the relation which it has to beauty, utility and truth, and other points which naturally arise. Want of space alone induces us to refrain from giving our readers a specimen of the author's treatment of this part of his subject.

After this general disquisition, Mr. Downing divides the various styles of houses of which he proposes to treat more specifically, into three; Cottages, Farm Houses, and Villas. He defines a cottage to be "A dwelling of small size, intended for the occupation of a family, either wholly managing the household cares itself, or, at the most, with the assistance of one or two servants." Very properly, therefore, he insists that the cottage shall not ape the villa, but shall be kept within its just limits, and that it shall express the simple tastes and habits, and the limited means of the class by whom it is occupied. The disposition, not uncommon in our aspiring and sanguine countrymen, to go beyond their means in the construction of their dwellings, is here, as elsewhere throughout the volume before us, strongly and justly rebuked. Indeed, our author deserves no little credit for refusing, as he constantly does, to encourage even tasteful extravagancies. His principle is: first count the cost; then consider your ability; then obtain as much as possible of convenience or utility in your dwelling; then, and not till then, procure whatsoever of beauty and embellishment is warranted by your means, and will be in harmony with your tastes. Every discriminating person will admit without hesitation, that this is the proper principle. No one has a right, on the plea of style or taste, or any other plea, to live beyond his means. And if our mechanics and tradesmen just beginning life, as it is termed, or any in moderate, that is, ordinary circumstances, as to pecuniary ability, will consult Mr. Downing and those like him, they will find that very limited pecuniary resources are sufficient to secure a dwelling that will satisfy their necessities and minister to their comfort, as no pasteboard villa or gingerbread castle ever could. We cannot, of course, enter upon the criticism of particular designs in the work before us. But we should like to point the industrious day-laborer, who seeks with the setting sun his humble dwelling in the suburbs of some city, to the cottage plan, for instance, on the 129th page of this book, and show him how, with hardly the additional expense of a dollar, a little good taste would give him, with even his slender means, a house which for convenience, and simple beauty, might vie with any that wealth could erect, and which would be as bright as the evening star of his daily life of toil, to light him to the cheering and elevating comforts of a true home.

Our author very naturally has a chapter devoted to the consideration of "Materials and Modes of construction;" in which he insists upon the superior value and propriety of the more solid materials in the construction of houses of whatever class. And we can not but think that the time has come when our people should adopt a more solid material for building purposes than they have generally used hitherto. In a newly settled country, where timber is actually in the way of the most necessary agricultural labor, it is to be expected that the dwellings of a people will be constructed of this material. But with us this necessity, as it may almost be called, exists no longer, and it is well worth considering whether it is not best for us to give our dwellings a look of more substantial and enduring comfort, by the use of a more substantial material in their construction. The consideration of permanence is no unimportant element in the true idea of home. A true economy also, we think, would lead to the adoption of a more solid material than wood for the walls of our dwellings. But we cannot enlarge upon this point.

Following the author's remarks upon cottages, we find a chapter of "Miscellaneous Details," which, to any one who is about to undertake the work of building, though in ever so humble a style, is worth more than the cost of the book. What Mr. Downing has to say in regard to the other classes of dwellings—the farm-houses and the villas—it will not be important for us to consider at length after the notice we have already taken of his general scope.

In his chapters on the furnishing of houses, however, he has opened a new subject to general consideration. Treatises upon furniture and its arrangement, have not been uncommon on the other side of the Atlantic, but, so far as we know, this is the first attempt to set forth the matter in this country. It is no unimportant subject, however, nor is a treatise upon it undeserving our attention. On the contrary, we are sure that a perusal of our author's remarks would be of service to almost any house-keeper. As Mr. Downing has shown the man of slender means how he may have a tasteful cottage, architecturally considered, so here he shows him that he can furnish it properly and even attractively without any outlay of money beyond his ability. The book closes with some extended remarks upon "Warming and Ventilating;" and we know not where to find the same amount of valuable information upon these subjects in an equal space. The question of the best mode of warming dwellings is one which has great interest to the mass of our people. We may safely say in regard to our country as a whole, that, for at least six months of the year, we are under the necessity of resorting to artificial warmth, in order to make our dwellings comfortable. Of course, the question how this warmth shall be obtained, is one of prime importance to every housekeeper. Nor is it to most persons a question of less importance, considered economically, than it is in its bearings upon comfort. But this question is not simply that of obtaining the greatest amount of heat at the smallest cost. Many have seemed to consider it so, and their mistake has been a most injurious one. They have left out an element, and that a most important one, in the real question persented for solution. That question, a question set before us for solution by the Creator himself, is how to secure at the least cost the requisite warmth in consistency with the physiological laws of our being. Leaving out this latter part of the question, we have had men, making some pretensions even to a knowledge of the laws of natural philosophy, who have undertaken to warm human beings as they would bake biscuit in a tin oven, at a cost of only three cents worth of charcoal! *Air tight* stoves have been made, by which it is professed that two sticks of wood will be almost as serviceable as a quarter of a cord under the old arrangement of things. You have only to shut the damper after the fuel is once ignited, and have the windows carefully caulked so as to be air-tight too, and then you may sit and swell and toast, and grow delightfully brown, and all at the cost of only a few cents a day. Yes, and what is more, you may become air-tight yourself, also, getting bronchitis, asthma, an unpleasant stagnation of the blood in the lungs, and divers other equally agreeable affections! No wonder that hydropathy and all the other *pathies* are in demand, and that drug shops are multiplying.

But seriously, we are beginning to find that we may warm ourselves at the expense of health though at a saving of the pocket. Yet that saving is only for the present. Better far to pay a few dollars extra for fuel now than to be obliged to pay many extra dollars by-and-by for doctors, nurses, plasters and pills. Those open fire-places and Franklin stoves of former days, with the bright shining faces and the family drawn up around it, were a source of comfort and of real social profit too, which we already have but in memory, and which our children will know hardly otherwise than as a matter of history. The open grate, however, is still left us, and the furnace is now brought within the means of almost all. These, with a proper care, provide the requisite heat without violating the laws of life; but as for stoves, we feel little disposed to thank more than one or two of all the inventors of them. The fondness of our aged people for an open fire-place, where they can see the the glowing coals and the leaping flame, is a most amiable fondness, and we trust their sons will inherit it, and indulge it so long as any thing of our forests remains. At any rate, we hope they will abjure ovens and biscuit baking except in the kitchen. We commend Mr. Downing's concluding chapter as an admirable treatise upon the whole subject of warming and ventilation, and hope that it will not be without profit to the public that he has written as he has.

Our readers cannot fail to conclude, even from our desultory and imperfect notice of the book before us, that it is a valuable addition to the stock of reading, and promises to do much for the social welfare of those who may come in contact with it. Mr. Downing has here aimed to show how much of genuine comfort can be had within the compass of a very humble dwelling, as to cost and pretensions, such a dwelling as alone it is within the means of many to command. At the same time he has undertaken to set forth the principles of taste and truth which have their application to the most costly and elaborate structures. He has given advice suited to the circumstances and wants of almost all who are, or are likely to be, concerned with the important business of house building. And we feel bound to say that this advice is eminently sensible throughout. We are glad that such a man as Mr. Downing has been moved to take the subject of architecture in hand and bring it before the public in its practical relation to human comfort. There is in all his writings a simplicity, a regard for sterling truth and honesty, a love of the beautiful in nature, an earnest desire to promote the welfare of his fellow men, which entitle him to the regard of all, and make him a valuable counsellor. The book which he has now given us, the professional builders will of course possess. It is also set forth with such beauty of paper, type, and illustrations, as make a proper ornament of the parlor table, and fit it to claim a place on any bookshelf. We would suggest whether a cheaper edition would not get into the hands of a larger class of readers than the present one is likely to reach, and that class who most need and would be most benefited by its instructions. Meanwhile, we will conclude by expressing the hope that when Mr. Downing returns from his vist to Europe, enriched as he will be by the observation of its architectural beauty, he will give us a volume upon the proper structure of school houses and churches, a class of buildings in which we are more defective if possible than in our dwellings.

Cutting and Laying Tile Drains.

Analytical Laboratory, Yale College,
New-Haven, Conn., March 26, 1851.

Messrs. Editors—The subject of laying tile drains, is one upon which I have written before, both for the Cultivator and other agricultural publications, but there are some reasons why it seems best to enter upon it again at the present time, After all that has been spoken and written by myself and others in favor of draining, and of tiles, it is in my experience, still the fact, that a majority of the farmers in most districts are even yet unable to tell what a tile really is, much less to say what should be done with it in making a drain. In some quarters, however, enterprising men have introduced their manufacture, and as fast as their usefulness becomes known, the demand for them is increasing. I have received letters from numerous sources, inquiring as to the nature of tiles, where they are to be procured, how they were to be laid, &c., &c.

In my "Elements of Scientific Agriculture," I have devoted part of a chapter to a description of the various kinds of tiles used, the modes of laying them, the tools employed, and the systems of arrangement best adapted to different situations and classes of soil. Mr. Colman, in his "European Agriculture," has also dwelt upon this subject somewhat at length. These books, however, are not known to all, and do not, in themselves, furnish anything more than an outline of what may now be called the *science* of draining. I find that in practice, various unforeseen difficulties arise, which are not provided for in the books, and now propose to notice some points relative to the actual working details of drainage, without referring much to theory. In doing this, I am not unaware that I may possibly err in some of my practical views, but as they have been mostly drawn from observations of real experience, they probably will not lead any one very far astray. Bye-and-bye, when time has shown the success or failure of their respective systems, some of our practical drainers must give us the details of their management. While waiting for such developments, I will endeavor to answer a few of the inquiries that have been from time to time addressed to me.

1. The form of tile now preferred by the best foreign authorities, is the pipe, or simple cylinder, cut in lengths, and laid so as to join end to end. This form can be made cheaper than any other, being all in one piece; for the same reason it can be transported at smaller cost, and is less liable to breakage by handling. The common objection on the part of those who have never seen these tiles at work, is, that water will not find its way into such a close connected tube. I might reason upon this subject at length, but cannot now spare the space, and will simply assure all doubters, that the water does in some way get in, and that they cannot, even by any process of packing stiff clay around the tiles, manage to exclude it. This has been proved over and over again, in practice, and is no longer a point for argument.

2. A frequent subject of inquiry is, the nature of the tools proper for cutting the narrow ditch required for tiles. One great saving in their use, is this reduced width of the drain. It is customary to run one or two deep furrows with a heavy plow along the line of the drain, thus partially throwing out from eight to ten inches of the surface. The loose earth is then cleared away by a common spade, and the next ten or twelve inches taken out by a spade of the same shape, but narrower. Another spade still, six or seven inches wide at the top, but not more than two or three at the bottom, and quite long, takes out the lowest portion of the earth, leaving just about space for the tiles to lie, and for a man's foot to rest. A peculiar scoop-shaped hoe is frequently employed to finish the bottom of the drain smoothly, by cutting out small inequalities, and removing loose earth, which cannot so conveniently be cleared away by a spade. In coarse, hard gravel, or where large stones abound, such a perfectly formed ditch as I have described, cannot well be made. In these cases the cut must be more or less irregular, and in hard soils must be much wider than is absolutely necessary to receive the tile.

3. When the ditch is completed, the tiles are carefully laid on the bottom, end to end, care being taken that no wide vacancies occur, and that each piece is firmly in its place. In a very mellow and smooth soil, it is quite possible to cut the bottom so accurately to the size of tile employed, that the pieces can be laid and held in their places by the sides of the ditch. In the majority of cases, however, this cannot be done, and it is best to wedge them in as compactly as possible, by small stones placed at proper intervals along their sides. If this precaution be not taken, they are liable to be disturbed when the earth is thrown in to fill up. The end of a single tile thrust an inch out of its place would probably cause the stoppage of a long line, so that this point must be carefully attended to. Many practical drainers recommend laying a little piece of turf, grass side down, or a bunch of straw or shavings, over each joint, in order to prevent earth from sifting in. This, of course, is a safeguard, but in ordinary circumstances it is an unnecessary expenditure of labor. If the soil thrown back has become entirely dry and powdery, enough may possibly sift in to do some mischief; but if it, or at least the first few shovel fulls, be in an ordinary state of moisture, no such result need be apprehended, provided, always, that the joints are well made, and the line firmly secured in its place. A point which is often neglected, is the proper packing of the earth in filling. This should always be done with care, so as to avoid that washing of mud into the pipes, which would be likely to occur if the soil above them were left loose and porous.

4. If any curves are made in the drain, they should be of a gradual character. It would be better to blast or remove even a large rock, than to make an abrupt curve in a long drain. It is easy to see that the tiles would not join closely together on a sharply curved line, and even if cut to fit, the danger of stoppage would be greatly increased, owing to their greater liability to get out of place. Such curves, too, retard very seriously the flow of the current, and for this reason, the drain is less likely to clear itself of many small obstacles which may obtain entrance. Where the fall is gentle, this consideration becomes of especial consequence. It was said by Mr. Smith of Deanston, that tile drains might be made to discharge water, where the fall was but *one inch* in a mile. This, obviously, could only be done by the exercise of some engineering skill in leveling, &c. Where the fall is one foot in a mile, the work is not difficult, although, even then, it must be very nicely done, and the channel very even. The greatest difficulty on a gentle fall, is found in gravelly and stony soils; it requires some patience to straighten and smooth the bottom of a ditch in such a situation.

5. Some persons have supposed that machinery is used abroad for laying the tiles. This I have never seen, and am inclined to think that there is some mistake in the matter, for I cannot see that any advantage would result from the employment of machinery in such work. A good, careful man, when the ditch has been well cleaned out and levelved, can lay the tiles and secure them in their places with great facility. Where the fall is inconsiderable, slight inequalities in the bed of the ditch, and consequent bends of the tiles, do not seem to be injurious. On the sides of hills, I have seen them laid quite carelessly, precautions only being used to keep the ends where the tiles met, in close contact.

6. That as a general rule the drains should run straight down the slope, and in parallel lines, is now considered a fact beyond all question. Such drains discharge the water better than others, and dry the ground more completely. At the foot of the slope, they discharge into a main cross drain, made of large tiles, or in some cases of flag stones. Where the slope is very long, it is recommended to run a cross drain about half way from the top. This is to prevent the liability to choke, which exists in very long drains of small diameter.

7. A pipe of 1½ inches inside diameter, is quite sufficient for the small drains, where they have not to run more than two hundred feet; for greater distances a two inch interior diameter would be preferable. Farmers among us who commence draining with tiles, are apt to spend more money than is necessary, by purchasing larger sizes, under the impression that it is not safe to use the smaller ones. If, however, any person will calculate how much water may be discharged in twenty-four hours by a pipe of one inch bore, it will be perceived that but a few such pipes constantly running to the utmost

of their capacity, would make quite a brook. The three and four inch sizes commonly used, are in ordinary cases never taxed to more than half of their capacity.

8. It is apprehended by some farmers, that the tiles would soon become choked, if laid in that mixture of sand and clay which almost runs when saturated with water. I have never seen any precautions employed in such cases, and do not believe them to be necessary. The tile itself almost instantaneously dries that part of the wet soil with which it comes in immediate contact, to such an extent that it will no longer run; it becomes a porous medium through which the surplus from the still saturated portions filters clear into the drain.

9. In quicksands, and bogs, where the bottom is very soft and yielding, it has sometimes been found best to lay a foundation of broad refuse plank or boards, upon which the line of tiles is placed. The pieces being short and heavy, are otherwise liable to sink unevenly, and gradually work out of place. Drains have been laid in this way with eight or ten feet of soft bog beneath them, and have worked well, at least for some years.

Many of the tiles that I have seen in this country, have not been well baked, owing probably to inexperience in the makers. They should be burned hard, so as to ring when struck, and show a full red color. The soft pale-colored ones are apt to crumble away in the soil, and will not stand at all when exposed to the action of frost.

I have thus answered briefly, most of the questions that have been addressed to me by different individuals, and shall be happy to give any further explanations that may be desired, as far as I am able to furnish them. Yours truly, John P. Norton.

The Dairy Business.

Butter Making.

A valuable and interesting report on the manufacture of butter, was made last season to the Worcester County (Mass.) Agricultural Society, by John W. Lincoln, Esq. The first requisite laid down for the production of good butter, is *good pastures*—such as produce a sweet and plentiful herbage. White clover and the finer grasses are recommended, and it is important that there be good water at all times accessible to the cows.

Good cows are the second requisite. On this point it is observed—

"There is believed to be a much greater difference in the quality of cows for the butter dairy, than has generally been supposed. It is known that some cows yielding a larger quantity of milk—are of but little value for the making of butter. It appears by the certificates of competitors for the premiums offered by this Society in 1848, for milch cows, that the weight of milk required to make a pound of butter, varied from 17¾ lbs. to 30½ lbs., and these cows, at least in the estimation of their owners. were considered extraordinary animals, as they were offered by them for premiums. The Chairman owns a cow, from less than six quarts of whose milk, one pound of butter was obtained, and has had others, which were considered good cows, the milk of which would not give a pound of butter to twelve quarts; and it is believed the latter quantity is better than is obtained from the average of the cows of this county. Every farmer should make trial of each of his cows separately, and if she is found not to give rich milk, she should be sold or exchanged with one who, for other purposes, may deem quantity of milk of more importance than the quality of it. For the purpose of testing the quality of the milk, a lactometer is a convenient and not an expensive instrument. Good milkers, both as regards quantity and quality, are frequently met with, and their valuable properties, it may reasonably be expected, will be transmitted to their descendants; calves from such mothers should never pass into the hands of the butchers. The quantity and quality of milk may be greatly improved by attention to the feeding of the cow; she is the machine in which the milk is manufactured, and those who wish an abundant supply of that, which is good, must see that the animal has a liberal supply of suitable materials from which to make it."

In regard to churns, it is mentioned that there is much difference in the quantity of butter which is produced by the various kinds, from the same quantity of cream. The results of some comparative trials with Galt's and Robbins' churns, are given, in which the former appeared to have considerably the advantage in this respect. A churn called "R. W. Davis' patent self-adjusting churn," is highly recommended. It is said to churn, gather, and work the butter without its being taken from the churn and without being touched by the hands. As a churn, it is said not to be inferior to any of the rotary churns, and being able to work the butter, it is thought to have a great advantage over all others known to the author of the report. The price is said to be $4,50 to $6,50, in proportion to size. They are made by Fairbanks & Stone, Westboro, Mass.

Rapidity of Churning is discouraged, as tending to produce an inferior quality of butter. On this point reference is made to Prof. Norton's *Elements of Scientific Agriculture*, as follows:

"Several churns have been exhibited lately, which will make butter in from three to ten minutes, and these are spoken of as important improvements. The most carefully conducted trials on this point, have shown that as the time was shortened, the butter grew poorer in quality, and this is consistent with reason. Such violent agitation as is effected in these churns, separates the butter, it is true, but the globules are not thoroughly deprived of the casein which covers them in the milk; there is consequently much cheesy matter mingled with the butter, which is ordinarily soft and pale, and does not keep well. Until the advocates of very short time in churning, can show that the butter made by their churns is equal in quality to that produced in the ordinary time, farmers had better beware how they change their method, lest the quality of their butter, and consequently the reputation of their dairy, be injured."

A brake, similar to those which were described in the Cultivator for 1846, pp. 187, 240, is recommended for working butter, instead of the hands. A wooden table is thought preferable to marble, to work the butter on.

The mode of manufacture practiced by Charles E. Miles, whose butter was pronounced of very superior quality, is in substance as follows: The cream is not allowed to change by standing, before it is churned. Crowell's Cylinder Thermometer Churn is used. After the churning is well done, the buttermilk is drawn from the churn, and cold water put therein, and the butter thoroughly dashed to extract the buttermilk. [It is proper to remark, that the chairman of the committee who made the report, objects to the use of water for this purpose, as "wholly unnecessary, and prejudicial to the butter."] The butter is then seasoned with with salt—about an ounce of salt to a pound of butter; it is then thoroughly worked upon a butter table, by the aid of a brake—not allowing the hand to come in contact with the butter. By the use of butter-paddles, it is then moulded into pound lumps, and fitted for the market.

Good salt is regarded as of much importance. It varies much in strength, and none but that which has been proved to be good, should be used.

Vessels for keeping. Stone pots are recommended for this purpose, in preference to wood. If wood firkins are used, they should be made in the most thorough manner, and be thoroughly soaked in strong brine before the butter is put into them.

A good milk-cellar is thought of great importance.

"It should be cool, having windows to allow a free circulation of air. To prevent the admission of the rays of the sun by the windows, and thereby render temperature in the cellar less cool, it would be well to have blinds secured with hinges to the building at the upper side of the blind, that it may be turned up against the building and buttoned there when not in use, and when wanted let down to a horizontal position, where it will be retained by resting on stakes at its extreme corner, in which situation it will screen the cellar, and at the same time allow a free circulation of air. The milk vessels should not be allowed to stand on the bottom of the cellar, but should be placed on shelves suspended from the top in such manner that the milk may have the benefit of the pure air. Care should be taken that no milk be spilt, or any thing allowed to be therein that may produce any unpleasant smell, which will be sure to taint the milk and thereby injure the butter."

Lastly, *a good dairy-woman* is considered of more importance than all.

"On her skill and good management frequently depends the question whether the farmer is to obtain the highest market price, or a sum insufficient to pay for the labor bestowed in making the butter. The most perfect cleanliness must be observed in all the stages of its manufacture. The pan and pails, should be frequently washed, scalded, and sunned, and all the utensils kept perfectly sweet."

◆

Skim-Milk---Butter from 16 Cows.

Editors Cultivator—In estimating the value of the productions of a butter dairy, the buttermilk and skimmed milk are items of much importance. But few dairymen, perhaps, have much knowledge, or even very definite ideas, of the actual value of these articles, as they are generally mixed with other food before they are given to hogs and calves. From my manner of feeding my skimmed milk during the past season, I have been able to make a very correct estimate of its value. I milked sixteen cows.

When I commenced feeding sour milk last spring, I had one hog worth,	$4 00
I then bought a pig for,	2 00
June 1st, bought two pigs at $1.12½.	2 25
June 1st, bought one hog,	6 00
I fed these hogs in the fall 16 bushels ears of corn ground with cob, worth 25 cent per bushel,	4 00
	$18 25

which was all the grain they had of any kind.

The hogs were confined to the pen all summer, consequently there was no expense for pasture. When butchered, they weighed 1,300 lbs. at 5c. per pound,	$65 00
I also raised nine calves, entirely on skimmed milk and butter-milk, which were worth $4.00 each, when weaned, at about four months old,	36 00
	$101 00
Deduct value of hogs, and grain fed,	18 25
Value of sour milk from 16 cows,	82 75

The value of the sour milk from each cow it will be seen is a little over $5.00.

The 16 cows made during the same season 3,200 lbs of butter—two hundred pounds each—which shows that sufficient milk to make one hundred pounds of butter, is worth $2.50, after the butter is all taken out. Sluman L. Wattles. *Sidney Center, Delaware county, N. Y., March* 6, 1851.

◆

Large Yields of Butter.

The Windsor (Vt.) *Journal* gives some remarkable yields of butter, as follows: Daniel Ritter, of Weston, made and sold the past season, 479½ lbs. of butter from two cows, in addition to what was used by his family of two persons. This is within a fraction of 240 lbs. from each cow. John Cameron, of Rygate, made from five cows, 1090 lbs. butter, and over 200 lbs. cheese, or, exclusive of cheese, 218 lbs. butter from each cow. John G. Clark, of Tunbridge, states that he made, last season, from one cow, "besides using cream and milk for a family of six persons," 255½ lbs. butter.

The Veterinary Department.

Cure of Wens in Cattle.

In answer to the inquiry of Mr. Todd, in our March number, respecting the cure of wens, we have received several letters.

J. Cummings, Huntington, Ct., describes three kinds of wens. The first he calls a "bone wen," and thinks it always appears on the jaw. He says—"it will sometimes eat holes through the jaw in four months; but may remain a year or more before doing much injury. There is no cure for this wen. There is no better way than to begin to feed the animal as high as it will bear as soon as the wen makes its appearance, and let the butcher take the animal as soon as it is fat enough." The "flesh wen," he says is easily cured. He directs that it be cut out when it has reached the size of a hen's egg. This kind never adheres to the bone. He states that he has taken out six at a time from an ox five years old—the largest the size of a goose's egg. The third which he describes, forms near the bone, but never breaks of itself, owing to the thickness of the flesh and skin over it. He directs that it be opened on the lower side, so that the matter may readily discharge from it. He says he has known this kind to discharge for a month—the matter having the appearance of a rotten egg, and very offensive to the smell. It is recommended to rub tar round the opening, in warm weather, to keep off flies.

H. Collins, of Berkshire, Tioga county, writes—"In reference to wens on *jaws* of cattle, I will hazard the assertion that there is seldom, if ever, a cure effected. The cause, I think, in all such cases, is a bruise on the jaw, or defective teeth, ulcerating the jaw-bone and creating the tumor called wen. I came to this conclusion years ago, from slaughtering cattle effected in this way; from examining the mouths of those and others I have known, I am confident that in every case like the one described by Mr. Todd, there was defective teeth against the tumor. To extract the defective teeth, when the tumor is first discovered, may, perhaps, effect a cure, yet I think it doubtful."

Cure for Scratches in Horses.

A subscriber in Virginia sends us the following recipe, the efficacy of which he says he has proved:

1 lb. copperas, } pulverized.
1 oz. blue vitrol, }
3 pints good vinegar,
½ pint spirits of turpentine.

Mix thoroughly in a bottle, and it is fit for use. Apply it with a swab.

Foot-rot in Sheep.

There are various modes of treating this disease, but we know of none more simple and effectual than an application of blue vitrol. R. Herrick, of Essex, Vt., describes his mode of treatment in the Boston Cultivator, as follows:

"For one hundred sheep, from 2 to 2½ lbs. oil of vitriol, 1 lb. blue vitriol, pulverized, 1 lb. burnt alum, dissolved in four quarts of soft water. But the main thing is yet to come. *The hoof must be cleaned and pared;* cut to the bottom of the sore, but be careful not to draw blood, for that will prevent seeing the diseased part. Clean and pare till the hoof is white all over; then dip it into the above preparation. Repeat the paring and dipping once in ten or twelve days, till all are sound. Three to five times will ordinarily effect a cure. The foot rot is much more easily cured in cold than in warm weather."

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Lime for the Curculio.

Much having been said in favor of lime as a remedy for the curculio, and as the time is approaching for its yearly assault on young fruit, the knowledge of past experiments becomes desirable. A near neighbor,—who is a distinguished fruit raiser,—tried lime in nearly all imaginable ways last year, and with the following results.

Nectarines, plums, and apricots, were thoroughly syringed with thin lime wash; and as each successive rain and heavy dew carried it off from the smooth surface of the young fruit, it was re-applied as often as necessary. Special attention was given to the nectarines, which for six years of blossoming had yielded no crop; and to be still more secure against this, the lime was applied carefully with a brush to each young nectarine. About three days in the aggregate were spent in this way; and the result was, that the full number of six entire specimens of the nectarine were saved from destruction out of the whole orchard. But on further inquiry it appeared that these six all grew on a tree under which a young calf was kept confined during the season of operation; and to whose presence, chiefly, these specimens owed their escape.

The lime was believed to have a repelling influence, and some hopes were at first entertained of its efficacy; but it was soon discovered that the coating was disregarded, and the eggs were thrust through it into the green pulp. The whole trees with their entire crop of leaves whitened with lime, did not present a very ornamental appearance.

The application of lime appears to have been elsewhere in some cases quite successful—it becomes a subject for inquiry whether any collateral influences assisted it; whether the favorable result was not owing to something else, and was erroneously ascribed to the lime.

Protecting Half-Hardy Plants.

[Extract of a letter from David Thomas, dated 3 mo. 1, 1851.]

Evergreens are believed to afford a better protection to half-hardy plants than dry vegetable matter; and when thickly applied to shrubs and young trees, and banded, succeed remarkably well. But in this climate it is dangerous to remove the covering much before the close of the 4th month. Unless the plants be making vigorous and etiolated shoots, (as the Greville rose is apt to do) it will be better to let every thing remain till the danger from even severe white frost is over and past.

A fine young tree of the Pride of India (*Melia azedarach*) 4 or 5 feet high, I once thoroughly and thickly encased with hemlock boughs; and though I have now no hope that a plant so decidedly southern will ever endure our winters without the most ample protection, yet when I removed the bandages early in spring, there were no traces of damage from the cold. A warm spell about the middle of 4th month however, which tempted me to trust it, was succeeded by severe weather, and it perished. The sun had been allowed to shine on its frozen limbs, and the rough winds to chafe them. I have never repeated the experiment.

For low evergreen plants, such as the Auricula or Primrose, a cabbage leaf answers completely; and nothing can be more conveniently procured. * * * *

When walking in the garden after the snow went off, I was pleased to observe how slight a covering was sufficient to protect half-hardy shrubs. Late in autumn, I had *laid* the Chromatella, Souvenir de Malmaison, and Solfatare flat on the ground, covering them but slightly, yet sufficiently to prevent their radiating heat to the open sky; and there they repose, uninjured by more than 30° of frost. Without this intervention, as a correspondent remarked to me in a letter, "they would have died half a dozen deaths."

Utility of the Cultivation of Flowers.

The chaplain of the Utica Asylum for the Insane, writes, "The Institution with which I am connected is flourishing. It is mournful to see so many persons bereft, in different degrees, of reason; and the more especially when we consider that very few of them have become so by the soverign providence of God; and that in the large proportion of cases, it is traceable to early misgovernment, intemperance, prodigality, mortified ambition, &c. Let us feel the importance of cultivating temperance, self-government, intellectual and moral sources of enjoyment, and above all the affections of religion,—as the greatest sources of happiness to our children and to all.

It should not be forgotten that the *love of home, the cultivation of Fruits and Flowers,* and all those employments which enliven and bless home, were intended by God to contribute to mental equanimity."

Trellis for Grapes.

One of the cheapest and most durable structures for this purpose, is described in a late number of the Western Horticultural Review. Substantial and durable posts are set in the ground fifty feet apart, those at the ends being planted deeply and firmly. Through these, half-inch holes are bored at twenty, forty, and sixty inches from the ground, and good annealed No. 8 or 9 wire passed through. It is fastened at the outer-posts by driving into the hole from the outside, a pin of hard wood, around which the wire is wound close to the post, which prevents it from drawing through. Intermediate supports, if wanted, are made by driving stakes having notches cut obliquely downwards with a saw for each wire, and fastening with a nail. One or two additional wires in height would be preferred by most cultivators. A coat of white paint on the wires, would remove the objection sometimes made to them,—that of becoming too much heated in the sun.

Protection of Grape-vines from Rose Bugs.

Eds. Cultivator—After many trials, I think I have discovered a *very easy, cheap,* and *effectual method* of protecting *grapes* from the ravages of the *Rose bug.* The history of the discovery is as follows: Being situated in East Haddam, Connecticut, where we have steamboat navigation, and facilities for transportation to almost every part of the country, I concluded to commence the cultivation of Isabella Grape-vines, for market. When I first began my grape nursery, I was surprised to find that the *Rose bugs,* which were so destructive elsewhere, did not meddle with my vines in the nursery; but at first I supposed that it was because the vines were in a new place, where the bugs did not happen to find them. The like happened from year to year, till I began to think that it was because these vines lay on the ground, that the rose bugs did not meddle with them. To determine this point, I laid some branches of my larger vines on the ground, and had the satisfaction of finding that the *buds, blossoms* and *fruit,* which were formed within a few inches of the ground, were *never* molested by the rose bug. I then concluded, that I had made a desirable discovery, and I requested a number of my friends to try it, and their success has corresponded very exactly with my own. So that for the last two or three years, when the rose bugs have been very abundant, my friends and myself, have been uniformly successful in preserving from their ravages all the grapes which grew on those vines, which we laid on the ground, before they leaved out. The rose bugs *never* disturb the grapes after they begin to have a sour taste. This taste they generally acquire, as soon as they attain the size of large shot. At this period of their growth the grape-vines should be set up on a trellis, the side of a building, or a fence or tied to stakes, or put into other situations which will allow them plenty of both air and sunshine; for the grapes which *continue* to be on the ground, do not grow and ripen as well as those which are set up. The vines should be laid down before they leave out in the spring.

By this method of proceeding, I should think that I I last year obtained more fruit, from one of my grape-vines, than the whole amount which I had obtained from that vine, by every other method which I had tried with it, in 20 years before. By this method of proceeding, my Isabella grape-vines, have several times, been so much overloaded with fruit, that it became necessary to lighten their load considerably, in order to prevent the whole from blasting. And here let me say to the lovers of good grapes, that when the fruit on a vine, which is heavily laden with fruit, begins to turn brown, and appears to be sunburnt, both the good of the vine, and the value of the crop, require that the vine should be unloaded of a part of its burden.

In setting up the vines which have been laid on the ground, it is highly important, that they should be put up in such a manner that the same sides of the leaves, which grew next the sun, while the vine lay on the ground, should be placed next the sun when the vine is set up again, otherwise the health and vigor of the vine will be so much injured, that the growth of the fruit will be checked.

If the vine is to be set again in a *perpendicular* posture, the *spreading* branches of some tree, may be cut off, before they leave out, and the vine may be laid on these leafless branches and tied to them, or a moveable trellis may be laid on the ground, either west, north, or east, but not south, from the roots of the vine. The vine may be be laid on this trellis, and tied to it, and at the proper time, the vine with the trellis, or the branches of the tree, may be set up, with much less injury to the branches and leaves of the vine, than if the vine was brought up alone. And if the vine is laid down west, or north, or east from its roots, there will be much less difficulty, in placing the leaves, in a proper position, than if the vine was laid down south of its roots. The sooner it is set up after the grapes are large enough to be safe against the rose bugs, the less will the vine be injured by moving.

But where there is room, and where it is advisable to place the vine in a *horizontal,* instead of a perpendicular position, poles or rails of a sufficient length, to give suitable expansion to its branches, may be laid on the ground, and across the trunk of the main branch of the vine, at the distance of perhaps three feet from each other, and beginning perhaps four feet from the main root, then the vine may be laid down on the poles or rails, with the branches extended, in such a manner as to give plenty of room for the air and sunshine. And when the proper time arrives to set up the vines, the ends of the poles, or rails, may be laid up on to crotches, or posts, three or four feet high, and the thing is done at once.

I shall not attempt at this time, to tell the reason why the rose bugs will not eat the grapes which lie on the ground, but a number of years' experience, has uniformly shown that they *will not* do it. Asa M. Holt. *East Hoddam, Conn., Feb.,* 1851.

◆

Horticultural Prizes.—The Boston Horticultural Society, always first in liberality, means and enterprize, awarded the past year, $650 for flowers, plants, &c.;

$623 for fruits; $142 for vegetables; and $155 for gardens and grounds. The same society has offered for 1851, the following sums in prizes: For fruits, $500; for plants, flowers, &c., $700; for vegetables, $250; prospective prizes for new varieties, $750.

The Curculio.

In answer to repeated inquiries, now that the curculio is about to visit us, we shall briefly give the mode of destroying this insect, by jarring down on white sheets, according to the best improvements which have been made.

First, with regard to the mode of beating the tree,—if the bark of the trunk or branches is struck, it soon separates from the wood and makes a bad wound; and if the mallet is wrapped in cloth, or cushioned, the blows become much less effective, and only a part of the insects are felled. Besides, even a cushioned mallet will after a while injure the bark. This difficulty may be avoided in two ways,—either by sawing off a small branch, leaving a short stump to thump against; or by forming a concave block so as to fit the trunk, and striking against this block,—the force of the blows on the bark becoming so softened as not to bruise the bark, in the same way that a hammer does not injure the knees when a lap stone is interposed.

Secondly, with regard to the easiest way to catch and kill the falling insects. If white sheets simply are spread under the tree, either several persons are needed to carry and spread them, or much time is consumed by a single individual. The work is made expeditious by stretching each sheet on light wooden frames. two separate frames being attached to each sheet, so that it may be folded or doubled together like the leaves of a newspaper, or the covers of a book. The great advantages of this arrangement are,—one operator may walk singly through the orchard, with two such folding-sheets in his hand, and extend these in a moment without assistance, under each tree; and after jarring down the curculios, instead of being compelled to search over the white surface for them, and to crush them singly between thumb and finger, the sheets are folded so as to throw insects, punctured fruit and all, into a pail of hot water. A few minutes are thus sufficient to go over a large fruit garden.

As to the efficacy of this mode, it is scarcely necessary to repeat here that it depends almost wholly on being unremittingly applied at least once a day, from the moment the young fruit begins to set, when not so large as a pea, till no more curculios can be found, or for several weeks. In one experiment, 18 of these insects were caught from a small plum tree at the first trial, yet by regular daily attention, a good crop was secured on this as well as on many other trees, which for previous years had never ripened one. Combined with the practice of confining pigs or poultry, this remedy can scarcely fail in the most unfavorable localities or in the most destructive years.

◆

The Working Farmer.—The third volume of this publication was commenced on the first of March, under the charge of A. Longett as publisher, and Prof. J. J. Mapes as editor. We presume the work will continue to support the character it has so well maintained since its commencement. It is issued monthly at one dollar a year, in advance.

NEW PUBLICATIONS.

The Flower Garden; or Breck's Book of Flowers; in which are described all the various hardy herbaceous perennials, annuals, shrubby plants, and evergreen trees, desirable for ornamental purposes, with directions for their cultivation, by Joseph Breck. Boston: John P. Jewett & Co.

In this book, Mr. Breck has supplied a want long felt by a portion of the American public, while at the same time, the information which the work dispenses, is calculated to remove one of the greatest obstacles to the cultivation of flowers in this country. The author is well known as a successful horticulturist and florist, and his practical writings, as editor of the New England Farmer and the Horticultural Register, may be taken as showing the general character of the work before us. Its object is the "diffusion of general knowledge and practical information in relation to the floral kingdom, particularly for hardy trees, shrubs and plants, desirable for the embellishment of the flower-garden and pleasure ground." It is a handsome volume of upwards of 300 pages 12mo., printed in good style, and we presume will meet with an extensive sale.

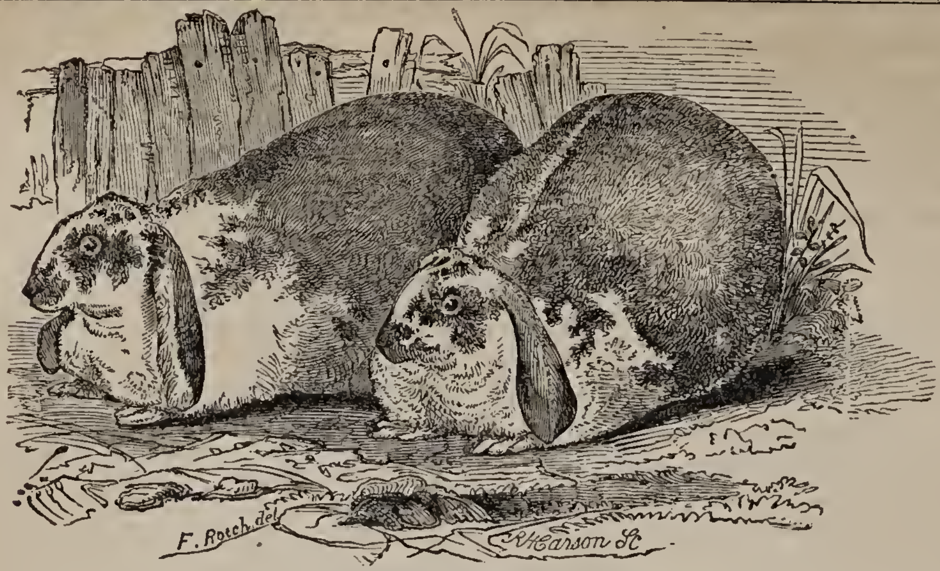
The Gardener's Text-Book: containing practical directions upon the formation and management of the Kitchen Garden, and for the culture and domestic use of its Vegetables, Fruits and Medicinal Herbs, by Peter Adam Schenck. Boston: John P. Jewett & Co.

This is a manual of gardening by a writer who appears to speak from his own experience. So far as we have examined, his directions are clear, comprehensive, and safe. It will be found a valuable aid to the kitchen gardener, furnishing many useful ideas and suggestions in regard to the proper composition of the soil, and the treatment required by the different articles which he may wish to cultivate.

Cattle, by W. Youatt and W. C. L. Martin, being a Treatise on the Breeds, Management, and Diseases, comprising a full history of the various races; origin, breeding, and merits; their capacity for beef and milk; the nature and treatment of their diseases; the whole forming a comple guide for the Farmer, the Amateur, and Veterinary Surgeon, with 100 illustrations. Edited by A. Stevens. New-York: C. M. Saxton.

Youatt's work on Cattle is one of established merit, and Martin's, published at a later period, is also of high character and value; but it strikes us as a great objection to the work whose title is given above, that there is no rule by which the reader can know what portions belong to the respective English authors, or what alterations or additions have been made by the American editor. There are, however, some additions which are *acknowledged*—of these we shall take occasion to speak hereafter. The work is "got up" in very handsome style.

"The Soil of the South."—We have received two numbers of a monthly journal with this title, published at Columbus, Georgia. It is edited by Chas. A. Peabody, Esq., and Col. James M. Chambers. It appears to be conducted with good judgment, and will, we trust, be the means of dispensing much valuable information in regard to agriculture. The terms are one dollar a year, in advance.


F. Rotch del.
Hearson Sc.

FANCY LOP-EARED RABBITS.

Breeding and Management of the Rabbit.

The domestic rabbit, in all its varieties, has always been, and still is, a great favorite in many parts of the European continent.

In Holland, it is bred with reference to color, only, which must be a pure white, with dark ears, feet, legs, and tail; this distribution has a singular effect, but, with all, it is a pretty little creature. The French, breed a long, rangy animal, of great *apparent* size, but deficient in depth and breadth, and of course, wanting in constitution; no attention is paid to color, and its marking is matter of accident. The White Angola, with its beautiful long fur and red eyes, is also a great favorite in France.

In England, the rabbit formerly held the rank of "farm stock!" and thousands of acres were exclusively devoted to its production; families were supported, and rents, rates, and taxes were paid from its increase and sale. The "*gray-skins*" went to the hatter, the "*silver-skins*" were shipped to China, and were dressed as furs; while the flesh was a favorite dish at home. This was the course pursued in Yorkshire, Lincolnshire, and many other counties, with their light sandy soils, before the more general introduction of root culture, and the rotation of crops, gave an increased value to such land. Since then, however, I remember visiting a farm of Lord Onslow's, in Surrey, containing about 1,400 acres. It was in the occupation of an eminent flock-master and agriculturist, who kept some hundreds of hutched rabbits for the sake of their manure, which he applied to his turnep crop; added to this, their skins and carcasses were quite an item of profit, nothwithstanding the care of them required an old man and boy, with a donkey and cart. The food used was chiefly brewer's grains, miller's waste, bran and hay, with clover and roots, the cost of keep not exceeding two pence a week. The hutches stood under a long shed, open on all sides, for the greater convenience of cleaning and feeding. I was told that the manure was much valued by the market-gardeners round London, who readily paid 2s. 6d, a bushel at the rabbitries. These rabbitries are very numerous in all the towns and cities of England, and form a source of amusement or profit to all classes, from the man of fortune to the day-laborer. Nor is it unfrequent that this latter produces a rabbit from an old tea-chest, or dry-goods box, that wins the prize from its competitor of the mahogany hutch or ornamental rabbitry; for the feeling on such occasions certainly is—"stand back, fair-play, and let the best win."

Clubs and societies abound for the breeding and exhibition of the "Fancy-Lops," now the favorite rabbit in England, and originally imported from Madagascar. Much pains have been taken, and much money spent, to bring them to their present perfection in form, color and size; all which are minutely attended to, and not very easily combined in any one animal, and hence they form an admirable test of skill on the part of the breeder.

For instance, a rabbit to come out a winner, at one of those exhibitions, must possess all the points of symmetry in common with the larger animals of the improved breeds; such as, a small clean head, wide and full shoulders, broad and deep chest, a wide back, large loin, full quarters and fine bone.

Some of us, I suspect, find it no easy matter to get even thus far in the catalogue of excellencies; but to all these essentials are to be added the more *conventional*, and perhaps the more difficult points, of beauty and fancy, as laid down by the various societies; embracing not only form but color,—but the particular disposition and forms of color.

A prize rabbit, then, must possess, besides the before mentioned properties, a full, round, clear eye, an ear (colored as the body,) long and broad, of a soft delicate texture, dropping alike and nearly perpendicularly down by the side of the cheek, with the convex of the ear, turned rather out than in. This is termed its "*carriage.*" The color on the body must be in strong rich unbroken masses, spreading itself uniformly over the back, sides and haunches, called the "*saddle,*" but breaking into spots and patches on the shoulders, known as the "*chain.*" The head must be full of color interspersed with white on the forehead and cheeks, while the darker marking on the point of the nose and on each lip, goes by the name of the "*butter-fly,*" from the resemblance it should bear to that insect. Add to all this a large full dewlap, beautifully white, which spreads itself (when the animal reposes) over the fore feet and forms a rich cushion for the head. All this, combined, would indeed form a perfect lop-eared rabbit, worthy to enter, and likely to win the prize collar, be it of gold or silver; and the breeder may be proud of his success, though it be but a rabbit. Much consequence is attached to the length, quality and carriage of the *ear* in awarding premiums. I was indifferent to this point of length, and purchased much lower in consequence, paying from ten to forty shillings sterling, a piece, for those I imported, according to age and quality; whereas five guineas is not an uncommon price, and individuals have been sold as high as thirty guineas! The consequence of my selection is, that out of fifty rabbits, in my rabbitry, I have not one that will exceed eighteen inches length of ear from point to point! whereas the Illustrated London News of May, 1850, gave portraits of the two prize rabbits at the Rochester show, "from the excellent stud of Mr. GEO. TOWELL, measuring in length of ear $21\frac{3}{4}$ inches and $21\frac{1}{4}$ inches and nearly five inches wide."

Of those sent by the Queen from her own stock, to the Pacha of Egypt, none exceeded 20 inches, but they were beautiful in color and form.

The usual colors are black, blue, gray, yellow, and tortoise-shell, on white grounds. These are called "*broken colors*;" when not mixed with either, they are termed "*selfs*."

The food of the rabbit embraces great variety, including grain of all kinds, bran, pea-chaff, miller's waste, brewer's grains, clover and other hay, and the various weeds known as plantain, groundsel, dock, mallow, dandelion, pursley, thistles, &c. &c.

The rabbit thus easily conforms itself to the means, condition, and circumstances of its owner; occupies but little space, breeds often, comes early to maturity, and is with all, a healthy animal, requiring however to be kept clean, and to be *cautiously* fed with *succulent* food, which must always be free from dew or rain—water is unnecessary to them when fed with "greens." My own course of feeding is, one gill of oats in the morning with a medium sized cabbage leaf, or what I may consider its *equivalent* in any other vegetable food, for the rabbit in confinement must be, as already stated, cautiously fed with what is succulent. At noon I feed a handful of cut hay or clover chaff, and in the evening the same as in the morning. To does, when suckling, I give what they will eat of both green and dry food. The cost to me is about three cents per week, per head.

I by no means recommend this as the best, or the most economical mode of feeding, but it happens to suit my convenience. Were I in a town or near mills, I should make use of other and cheaper substitutes. My young rabbits, when taken from the doe, say at eight, ten or twelve weeks old, are turned out together till about six months old, when it becomes necessary to take them up and put them in separate hutches to prevent their fighting and destroying each other. The doe at that age is ready to breed, her period of gestation is about thirty-one or two days, and she produces from three or four to a dozen young at a "litter." It is not well to let her raise more than six or even four at once—the fewer, the larger and finer the produce.

Young rabbits are killed for the table at any age from twelve weeks to twelve months old, and are a very acceptable addition to the country larder. The male is not allowed to remain with the doe, lest he should destroy the young ones.

Hutches are made singly, or in stacks, to suit the apartment, which should be capable of thorough ventilation. The best size is about three feet long, two feet deep, and fourteen inches high, with a small apartment partitioned off from one end, nearly a foot wide, as a breeding place for the doe. A wire door forms the front, and an opening is left behind for cleaning; the floor should have a descent to the back of the hutch of two inches. All edges should be tinned to save them from being gnawed.

Having now given the leading characteristics and qualities which constitute a good "fancy lop-eared rabbit," and its general management, allow me to remark on the striking difference observable between Americans and the people of many other countries, as to a fondness for animals, or what are termed "Fancy pets," of and for which we, as a people, know and care very little. Indeed we scarcely admit more than a selfish fellowship with the dog, and but too seldom does our attachment even for this faithful companion, place him beyond the reach of the *omnipotent dollar*.

In England, and in other parts of Europe, a love for animals, with the attendant personal care necessary to their comfort, is encouraged from childhood up, as having a beneficial influence on the character. To the young it is another occupation, full of varied interest, added to the list of *home* amusements and attractions, so desirable, and sometimes so difficult to provide for them.

The operatives, mechanics and laborers, in other countries, seem to have a perfect passion for such pursuits, and take the greatest interest and pride in breeding and perfecting the lesser animals, though often obliged to toil for the very food they feed to them. Here, too, home influences are perceived to be good, and are encouraged by the employer, as supplying the place of other and much more questionable pursuits and tastes.

In relation to the man of leisure and science, I would remark that, as the artist delights in the power of moulding the inert clay into life-like form, so does the intelligent and amateur breeder, find infinite pleasure in the yet higher, and more difficult art, of modelling the live material into its most symmetrical proportions. And why should there not be as much satisfaction in producing what is excellent on a small, as on a large scale? Is not the statuette as beautiful, and is it not as much an effort of genius and art as the statue?

To myself the rabbitry is a "Studio," whereof the material is cheap, rapidly produced, soon perfected, very abundant, and occupying a small space, and is thus brought under my own immediate care and observation, with but little trouble; requiring months, only, instead of years, to *practically test* theories and speculations, and for studying some of the most important, but not understood, laws of nature. Such as, how far it may be safe to use close affinities? And if deteriorating, what are the first and warning symptoms? In what order does the animal structure give way under a persisted course of such breeding? The same as to cross-breeding, and how far the control of the breeder is diminished by its continuance; the comparative influence of the parents on the offspring, and how evinced. These and many other unsettled questions, involving the first principles of breeding, would require almost a lifetime to decide by experiments on the larger animals, to say nothing of the large outlay it would require, and the serious losses that might reasonably be expected to attend it.

With all due value for the very important assistance rendered the agriculturist by analytical chemistry, I would sooner trust the practical experiments of the rabbitry, as to the value of the different kinds of food, than I would the analysis of the laboratory! And though one may prove, that a bushel of ruta-baga be little more or less than a pail of water, yet if the other showed me that turneps, as the principal food, with but two ounces of hay per day, to the rabbit, developed the animal frame by a healthy growth with an abundance of muscle and some fat, I should be strongly tempted to pour out the water, and pour in the turneps.

I am inclined to think there is as much science, and perhaps interest, in breeding a "*carrier-pigeon*" up to its highest capabilities as in breeding a *race horse;* and I very much doubt if there is more care necessary or greater attention given to the purity of blood, the training and running of the one, than is bestowed on the nice breeding, exercise and flight of the other! Large sums of money depend, in the sporting world, upon the courage, speed, and bottom of both.

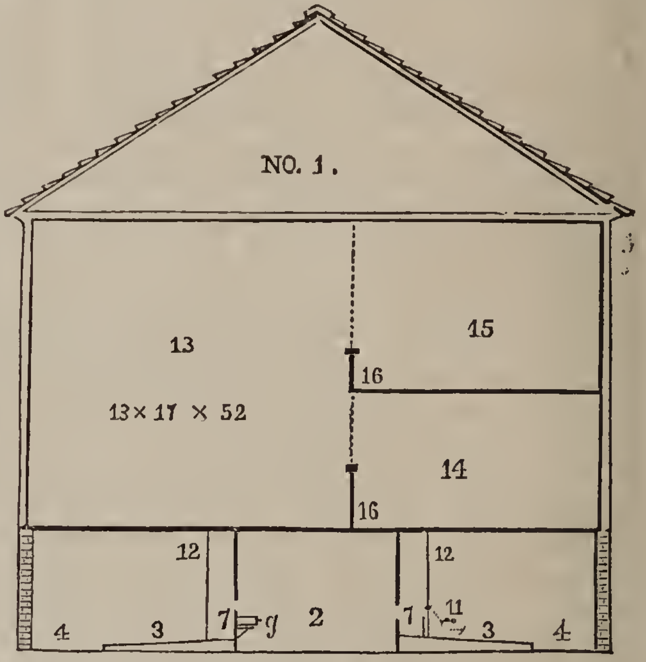
Hardly is the celebrated "Derby" over, and the winner proclaimed, when pigeons may be seen rising from all parts of the course, prepared to make another race of strengh and speed. These are watched, and bets made, as to which bird "*will be off first*," with an interest but little less than that which had, but a few minutes before, been bestowed on the horses. The birds tower over head, wheeling round and round, enlarging their circles as they rise higher and higher, until, with unerring certainty, they have made good their point, decided on their course, and then, with astonishing velocity, take a "*bee-line*" to their several destinations. At the club-houses, betting-rooms, printing offices, and lotteries, members are waiting their arrival, watch in hand, and perhaps an express in the saddle, to take advantage of the *first* knowledge of the result to be brought by the fastest bird.

To all this, I am well aware, the question will arise with very many of your readers—*Cui bono*? and the conclusion as definitively follow—"*It won't pay*." Perhaps not; and yet I believe that were the thing tried and a small club formed for the purpose of exhibition and experiment, that it would become, to its members, a source of much more interest than they could now suppose. As opportunities will now be numerous of purchasing rabbits from the best London breeders, I will give you the following names. Dr. Handy, just over Waterloo bridge; Mr. Payne, 142 White Chapel; Mr. Bailey, of the Star Coffee-house, Union street, out of Bishop's gate; Mr. Webster, Pleasant Place, Stamford street, Blackfriars road, over Waterloo bridge. From these breeders, other addresses can be obtained and stocks examined. Very truly yours, R. *Morris*, (formerly Butternuts,) *Otsego county, N. Y., March*, 1851.

Plan of a Barn.

Editors Cultivator—Accompanying this explanation, I send you a draft of a dairy-barn. Though not precisely after the fashion of any barn with which I am acquainted, it is on the same general plan of the celebrated Dairy-barn built by the Society of Shakers, at New-Lebanon, so much reduced in size and cost, however, as to bring it within the means of almost any thriving dairyman.

One side of this barn, it will be seen, has three floors, and the other two; the lower, which should be of stone when it can be obtained, is devoted to stables for 24 cows, allowing a space four feet wide for each, with a separate manger for hay, and trough for slop or roots, before each. The following figures serve as a key to the whole building, and its appurtenances. Whole size, 30 by 52.



End View.

1. A cellar 8 by 15 feet, for roots.

2. A hall, 8 feet wide, from which the cows are fed, &c.

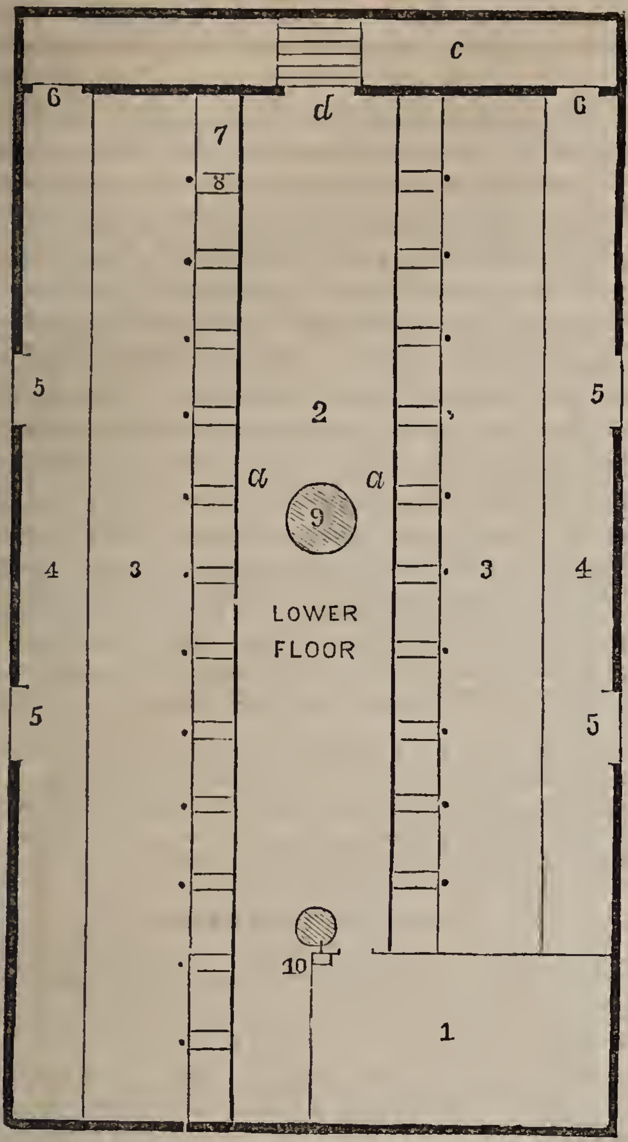
3.3. Stables—Platforms on which the cows stand, 5 feet wide, slanting half an inch to the foot, from the manger.

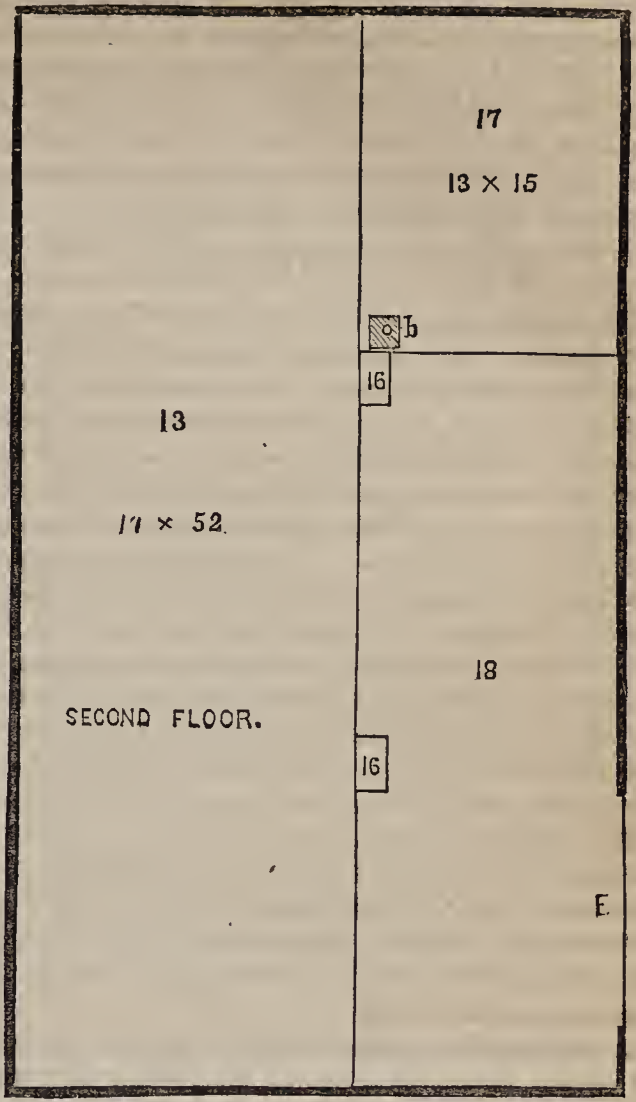
4.4. Floors, settled 4 inches below that upon which the cattle stand, into which all the excrement, either solid or fluid, is deposited, giving the animal a perfectly dry bed. This arrangement is indispensable to any good stable, either for cattle or horses.

5.5.5.5. Doors, 5 feet wide. These may be arranged wherever the shape of the yard, or character of the land, renders it most convenient.

6.6. Doors, intended to open into a shed over a vault made water-tight, for the reception of all the manure and litter. A wheel-barrow is used for carrying it to this end of the barn, where it is protected from the leaching of heavy rains, and the liquid portion is retained in the vault. where it should be mixed with coal-dust, saw-dust, plaster, muck, or some other substance capable of *fixing* the volatile gases, and rendering it more pleasant to draw on to land. Too much care cannot be taken of the manure made on a dairy farm.

c. Vault for manure, 5 feet wide and 3 feet deep, across which a bridge conducts to the hall.





7. Manger for hay or cut feed, 2 feet wide by 20 inches high.

8. Trough across the manger, one foot wide. In the Shaker barn, these troughs all draw out upon a brace or support, (as seen at g. in the end view,) into the hall, and after receiving the mess are shoved back to the cow. This is a great convenience.

9. A large tub for storing whey, or any other slops intended for the cows. When the dairy-house is near enough, and elevated somewhat above it, the whey may be conducted directly from the cheese-vat, through pipes into this tub. Many dairies have a similar arrangement.

10. Pump or penstock, standing in the corner of the cellar, by which it is kept from freezing. Those who wish to incur the extra expense, may conduct water by pipes from this pump to every cow's trough, into which it may be discharged as the animal needs it, through a stop-cock.

11. A chain with two branches, to confine the cow by passing it round her neck, and fastening it by slipping the T through the ring in the other end. The chain is attached to a smooth round post, (12) about 2½ inches in diameter, by a ring which slips up or down, as the cow may wish to stand up or lie down. This is believed to be preferable to stancheons, as it permits the cow, when lying down, to rest upon her side, in a natural position, and allows her to lick her sides if she wishes to.

12. The small round post to which the chain is fastened. It should stand a little outside of the manger, to allow the ring a chance to slip down and up.

13. The bay for hay, 52 by 17, capable of storing from 30 to 40 tons of hay.

14. The floor immediately over the stable, 7 feet between joints.

15. The third floor, upon which the load of hay is driven to be unloaded. This arrangement saves a great amount of pitching *up*, which is the hardest part of haying; but as the floor is 13 feet above the ground, it requires a tolerably long bridge to rise on to it; yet the extra expense is much more than saved in pitching off, and furnishing more room for hay. The carriage is driven out at the other end of the barn, down a bridge that may be much steeper. This floor is well adapted to threshing, when grain is raised on the farm, as is almost always the case.

When the building site is somewhat slanting, this high floor is very easily reached by driving in from the uphill end. This inclined situation is to be preferred where it can be obtained, as it furnishes a fine place for a warm cellar, by a little excavation.

16. Hatchways, through which hay is thrown into the hall to be distributed to the cows.

17. A room 13 by 15, or larger, for granary, storing shorts, provender, &c. When grain is threshed above, it is let down into bins and saves much labor in storing it.

b. A spout leading to the cistern, (9,) through which provender, &c., is led down to it.

18. This room answers many useful purposes, such as husking corn, storing green stalks, storing wagons in winter, and sleighs in summer, shutting up calves, &c. &c. A door opens into it from the side, at *e*. This room

is so much space saved, that in most barns is *over* the threshing floor, and almost useless. *a.* Narrow passages from the hall to the stable. As many of them may be made, and in such situations as the convenience of the builder may require. Gurdon Evans. *De Ruyter, March* 5, 1851.

The Farmer's Note-Book.

Best Grass for "Low Lands."

We are frequently asked, "What is the best grass for low lands?" The question, probably, has reference generally, to moist "swales," or to reclaimed bog or peaty soil, which it is desired to keep in permanent meadow. For such situations, we know of no grass that we think equal to a species of the *Agrostis* genus, indigenous to some of the New-England states, and known there as "Fowl Meadow." It has several peculiar properties which render it valuable. It makes a better quality of hay than any other grass that would thrive on such soils, and at the same time will yield more to the acre. A distinguishing trait belonging to it is, that its stems will keep green and retain their juices, even after the seed has ripened and fallen off. The stalks or stems are long and slender, and make a soft, sweet hay, which is much relished by cattle and horses. The roots are regarded as perennial, though it is deemed advisable, in order to keep up a good sward, to allow part of the seed to ripen and fall of itself, once in four or five years. New plants will thus be formed which will supply the place of such as die out.

A good time for sowing this grass, is the latter part of summer or first of autumn. The ground should be prepared by the aquatic and inferior plants being eradicated as thoroughly as possible, and the surface smoothed, when half a bushel of good seed may be sown to the acre, and a bush-drag drawn over to cover it slightly. The seed may generally be had at Boston, and is, we presume, kept by the principal seed dealers there.

An interesting description of the "Fowl Meadow" grass, was written by Rev. Dr. Jared Eliot, of Killingworth, Conn., and published in a work of which he was the author, entitled *Essays on Field Husbandry, wrote from a Journal of thirty years Experience*, printed in 1747. The following is from that work:

> There are two sorts of grass which are natives of the country, which I would recommend; these are Herd Grass, (known in Pennsylvania by the name of Timothy Grass;) the other is Fowl Meadow, sometimes called Duck grass, and sometimes Swamp-wire grass. It is said that herd grass was first found in a swamp in Piscataqua, by one Herd, who propagated the same; that fowl meadow grass was brought into a poor piece of meadow in Dedham [Mass.,] by ducks and other water fowl, and therefore called by such an odd name.
>
> It is supposed to be brought into the meadows at Hartford [Conn.,] by the annual floods, and called there Swamp-wire grass. Of these two sorts of natural grass, the fowl grass is much the best; it grows tall and thick, makes a more soft and pliable hay than herd grass, and consequently will be more fit for pressing, in order to ship off with our horses; besides it is a good grass, not abundantly inferior to English grass; it yields a good burthen, three loads to the acre. It must be sowed in low moist land, our drained [bog] land when it is of sufficient age, [or has been drained a sufficient length of time,] is very agreeable to this sort of grass. As the seed is very fine, there is danger of sowing it too thick, as some have done, so as to come up thick, like hair; this is a loss of seed and prejudicial to the grass. When you bring to a swamp by flowing, have killed your brush and ditched your land and got it a little dry, you may sow your seed among the trees and brush; it will come up, establish itself, and prevent other bad grass from taking possession; then you may clear off the wood and brush at your leisure; and then you will have good grass to mow as fast as you can clear the land. I have seen it grow knee high where the dead brush were very thick.
>
> This grass has another good quality, which renders it very valuable in a country where help is so much wanting; it will not spoil or suffer, although it stand beyond the common times for mowing. Clover will be lost in a great measure, if it be not cut in the proper season. Spire grass, commonly called English grass, if it stands too long, will be little better than rye straw: if this outstand the time, it is best to let it stand till there comes up a second growth, and then it will do tolerably well; but this fowl grass may be mowed at any time, from July to October. One of my sons told me, that at New-Fairfield, he saw some stacks of it that the people told him was cut in October; he pulled out some of the hay, it looked green and had a good smell. This is a great convenience in time of sickness, or any other casualty, whereby we may be hindered from mowing in season. This good property renders it a fit sort of grass for a new country, where we often have business crowd too hard upon us.
>
> In reading Mr. Ellis, I find by him that they have got herd-grass [in England] from this country, and set a value upon it; if they like that, they would like this much better; for although herd-grass be a valuable sort, fowl-meadow grass hath quite eclipsed its glory.

Indian Corn for Fodder.

The practice of raising Indian Corn to be fed to stock in an immature state, either green or dried, is not uncommon. It affords more forage, probably, than can be obtained from any other crop. It has been generally sown broadcast, harrowing in about two bushels of seed to the acre. But experience has proved that it is a better way to put the crop in drills, on account of the advantage it gives for destroying weeds. In broadcast sowing, the weeds often get the start of the corn, and prevent its growth, more or less.

In drill planting, the seed may be put in with a machine, drawn by a horse, by which the work is executed with dispatch. The rows may be from two to two and a-half feet apart, and it is best to use seed enough to have the stalks thick and fine, as such are eaten better by stock than larger ones. The crop may be kept clean by the cultivator, which should be passed through the rows as soon as the corn is fairly above ground.

The value of the crop depends somewhat on the variety of corn chosen. It is sometimes recommended to take the large southern corn, for this purpose. It may give as large, perhaps a larger crop, but stock do not like it as well. The best variety is the common large sweet corn. It makes a good growth, tillers, or suckers much, and the fodder has a peculiar sweetness which induces cattle to eat it with more avidity than they will eat that of any other kind of corn. A farmer in this vicinity who planted considerable corn last year, for feeding out while green, had three kinds of seed; southern, yellow or Dutton, and sweet corn. He began cutting the sweet, using it to feed stock which was being exhibited at the State Fair. They ate every bit of it with a good relish; but when the sweet corn was gone, and the usual quantity was cut and fed from the the Dutton and southern, the cattle discovered the difference at once. They smelt it over, tossed it about with their noses, and finally would not eat it without wasting more or less. The same thing has been noticed with hogs, when the corn crop has been cut up and fed to them while the ear was soft. They would eat the sweet corn, stalk and all; but would leave much of the other, though both were in the same state of ripeness.

The Indian corn plant, in its green state, contains so much sap that it is with difficulty dried so that it will keep well—it is very liable to become sour and mouldy, in the barn or stack. On this account many do not attempt to keep it till winter. Its use, however, as green forage, is every year increasing. Dairymen find a great advantage in feeding it the latter part of summer and in autumn, when grass is generally short, and often very scarce, from the effect of drouth. For this purpose it is sown at intervals in June, and as late as July, on good ground, and the crop gets forward so that it may be cut in August; and as the lots from the different plantings come in successively, they may afford a regular supply till hard frosts come. It is fed in mangers in yards or sheds, or carried to grass fields—cutting it in such quantities as are needed from day to day. It may be cut, if required, when it is not more than a foot high, as in such cases it will start again and afford a second cutting; but it is deemed best when the stalk is fully grown and the grain is beginning to form. If the crop is to be dried for winter use, it is best to let it stand till the top or "spindle" begins to die, as it will then contain less water, and can be cured with less labor. A good mode of curing, is to cut it in fair weather, let it lie (as thin as possible) and wilt one day; then bind it in small bundles, putting the band as near the top as practicable, and gather the bundles into small shocks, open at the bottom, and let them stand till sufficiently dried to be put in the barn or stack.

Cultivation of Potatoes.

Eds. Cultivator—The season for planting the potato is approaching, and as that valuable root has of late years been much subject to disease, if there be anything in the season of planting, in kind of soil, seed, or culture that would be likely to remedy, wholly or in part, the ravages of this blight, it must be a matter of interest and importance to every farmer to be aware of it.

I will not attempt to offer anything new on the subject, for I do not pretend to be in possession of anything not already suggested, and perhaps practiced by many. I will only give my experience in potato raising for the last three seasons.

In 1848, I chose for my potato plat a loose soil (slate) with a clay subsoil. On the half acre, I had spread about four wagon loads of compost, made of leaves gathered from the woods and mixed with barn-yard manure. This was done before plowing. The ground was in Indian corn the year before. On the 29th of April I planted. The crop was cultivated in the usual way, and was dug on the 21st of September. The yield was good—the potatoes being of a fine size and excellent quality. Not more than eight or ten diseased ones were found at the time of digging, nor did they rot after being stored away.

In 1849, a piece of ground was selected for the potato lot, about the same in kind and condition as the above described, having been also in corn the season preceding. This was spread with barn-yard manure alone, and on the 13th of April was planted. The crop was dug the 1st of September, and was quite a failure, caused by a long drouth, but was entirely free from blight.

Last season I had for potatoes a rich sandy soil which was, likewise, in corn the summer before. It was planted without manure, on the 9th of April. This crop seemed so much checked by the drouth in the early part of the season, as not to be much benefitted by the abundant rains and remarkable growing weather that continued throughout the rest of the summer. The yield from this plat was small; but was free from blight and the tubers have kept over winter without being the least effected. The potatoes in this last instance were not raised until about one month after the tops were dead.

Early planting has been frequently recommended as a preventive of the blight. It will be noticed of the instances given above, that the time of planting was earlier than farmers usually plant; which with several other cases of the kind that I have noticed in the neighborhood, has induced me to believe that early planting may have its advantages and deserves the attention of farmers.

The mode I have practiced for some years, of covering the seed potatoes after they are dropped in the drills, is much more expeditious than with the hoe or plow, not requiring one fourth the labor and doing the work better. As I do not intend to get this labor-saving contrivance patented, I give a description of it for the benefit of any who choose to practice it.

Take two pieces of scantling about eight feet long and four inches square. Invert your harrow, turning the points of the teeth upwards. Then take the scantling and lay one piece across the foremost part of the harrow, and the other one nearer the hind part, between the teeth, and in such a manner that when the harrow is righted and drawn across the drills, the scantling will be parallel with the drills, or pass over them sidewise. Now chain them fast to the beams of the harrow and you have all ready. Then by attaching your team, and driving across the rows, it will be found to cover the seed and level off the surface so that it will be difficult to discern the drills from the spaces between. One man and two horses with a fixture of this kind, could cover from eight to ten acres of potatoes in one day. J. H. Alexander. *Near Lewistown, Pa.*

Improved Stock in Nova Scotia.

The following is an extract from a letter lately received from James Irons, Esq., Secretary of the Central Board of Agriculture for Nova Scotia, who in 1850, as the agent of that association, purchased in this vicinity and in Massachusetts, some valuable cattle and swine, for the improvement of the stock of that Province. The letter is dated, "Horticultural Gardens, Halifax, Nova Scotia, Feb. 25, 1851."

I know it will be gratifying to you all to learn that the Aryshire and Hereford cattle, which I purchased from Messrs. Prentice and Corning, severally, have fortunately fallen into good hands, are thriving well, and promise to be of great service in improving our Provincial stock. The Ayrshire bull "Dundee," is now the property of the Dartmouth Agricultural Society, by whom he is highly appreciated. The young Aryshire bull calf "Major," is the property of the Cornwallis Agricultural Society, also the Ayrshire cow "Jenny 2d," both doing well. The Ayrshire heifer "Jenny Deans," was purchased by John Brown, Esq., of Falmouth, whose care as a breeder renders him worthy of her promise. The Hereford heifer is owned by John Esson, Esq., of Halifax. She is kept on his farm at Dartmouth; she is much admired. The young Devon bull which I purchased from the editor of the "Massachusetts Plowman," is now the property of Messrs. Brown and Black, at Windsor; he is also doing well. The Hereford bull is owned by the Windsor Agricultural Society, who prize him highly. The Suffolk and Middlesex swine, which I purchased from the late Mr. Stickney of Massachusetts, are widely distributed over Nova Scotia, and cannot fail, in the hands of careful breeders, to improve our stock. The Central Board of Agriculture, at Halifax, in disposing of these animals, obtained bonds from the purchasers, warranting a careful preservation of the stock and their progeny within the Province, for a certain period; but it is to be hoped that the farmers' own interest will prove a sufficient guarantee in this instance.

The past season has proved more propitious to our agricultural interests than the preceding one. With the exception of potatoes, which were generally blighted, all other crops have proved a fair average. With best wishes, I beg to remain, sir, your ob'dt and obliged servt., James Irons, *Sec'y C. B. A., Halifax.*

Indian Corn.

Eds. Cultivator—In the Cultivator of May last, "A. S. F.," of Granville, N. Y., has given us the method practiced by Mr. Clark of Castleton, Vt., in raising Indian corn. He says, "The manure being spread," &c. I wish to ask how much manure to the acre he considers necessary. Supposing a man has little or no manure, does he consider his compost sufficient of itself to raise a good crop of Indian corn, on tolerably good land. For if manure enough is "spread upon the furrows and thoroughly harrowed," we may expect a good crop without his compost. I have about three acres of land, from which I would like to take a good crop of corn this year, and have no manure but what I buy at a cost not less than seven dollars per cord, delivered on the land, which is two miles from the city. "Mr. C. says he knows from actual experience, that the compost for one acre will produce more corn than fifty loads of manure." A. S. F. says, "I shall try the experiment," I am desirous to know the result of his "experiment" before planting time.

Does A. S. F. hill up his corn, or does he not? I notice that "A Practical Farmer" on page 62 of the current volume, recommends to go through with "the cultivator three times both ways"—I suppose six times in all—"and never haul dirt to the corn."

Is this compost alone better than 50 loads of manure to the acre? and is the cultivator six times through the rows, and a clean pulling of weeds, the best mode of culture after planting? If so, I think it must be a great improvement on the old methods of raising corn. My land is rather high, and approaching to a gravelly loam. Geo. Mansfield. *Lowell, March* 3, 1851.

Injury by Muskrats.

Eds. Cultivator—I hope some of your readers will give the information which another correspondent desires, in relation to the muskrat. This animal is a perfect pest in my grounds. He not only burrows in the banks of ditches, much to my annoyance, but he is very destructive to my corn. This last season, the muskrats ate off more than half an acre of my corn, after it had got to be two or three feet in height. My man checked their operations, partially, in the latter part of the season, by snaring them with a brass wire set in their paths, but this costs too much time and attention. Unless I can find some easier mode of destroying them, I shall be obliged to forego the cultivation of corn on a piece of 15 acres, peculiarly adapted to its growth.

I believe this animal subsists entirely upon vegetable food. Old trappers have sometimes baited them with a bit of parsnip, carrot or sweet apple, which they will sometimes nibble at and carry away. What we want to know is, whether they can be fed with any kind of *prepared* food. That ascertained, I have no doubt *strychnine* would do the rest. Yours, &c., V. W. S. *Syracuse, Feb.* 1851.

The Germantown *Telegraph* states, that these animals may be readily caught in a steel-trap, set in the water where they have their paths, in going to the land for food. It is said not to be necessary to bait the trap, but it must set where they would be likely to put their feet in it. The writer states that nine were caught in this way in the course of a few weeks. It is necessary to fasten the trap by a chain or piece of wire, to prevent its being carried off by the muskrat.

Strong Vitality of some Varieties of Weed-Seeds.

Eds. Cultivator—The garden which I occupy had been neglected before it came under my care in the autumn of 1842. There was in it a small triangular plat, of less than two square rods, surrounded by gooseberries. This I found covered with the yellow dock. It has now been under cultivation for eight years, and has occasionally been deeply spaded. I think it fully within the limits of truth to say that I have destroyed upon it three crops of young plants each year; *and the end is not yet.* The fact obviously is, that each year of cultivation has thrown up seed that had previously lain too deep cast and removed from the air to germinate. All seeds have not this strong vitality. Corn and beans deeply planted will speedily rot, but potatoes and peas will grow from any depth at which they ever become buried by the deepest cultivation.

Let farmers beware how they neglect a crop of weeds under the impression that a little extra cultivation, the next year, will make up the difference. It may be so with some varieties, but with many it will not, as they will discover, to their expense and sorrow, in long subsequent years. Query: Who has experimented on this subject, and will give the public a table exhibiting the different vitality of weed-seeds. C. E. G. *Utica, Feb.* 7, 1851.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have been received since our last, from L. Durand, R., Amenia, E. D. A., Bridgewater, H. Neff, J. G. C. Jr., J. H. Alexander, Prof. J. P. Norton, J. C., W. L. Eaton, C. Reagles.

Books, Pamphlets,&c., have been received as follows: Report of Commissioners concerning an Agricultural School, to the Legislature of Massachusetts, from Hon. M. P. Wilder, chairman of the Board of Commissioners.——An Address delivered at the annual meeting of the Rensselaer Ag. Society, Feb. 4, by Hon. L. C. Ball, President of the Society.——Agricultural Geology, by Josiah Holbrook, from the author.——Geranium "Lucia Rosea," from Geo. C. Thorburn, Astoria.——An Essay on the General Management of a Farm in Canada, published with additions, by the New-Brunswick Ag. Society.——A pair of White Dorkings, from Levi Durand, Esq., Derby, Ct.——Seeds of the Cape Gooseberry, from E. B. Prentiss, Watervliet.

Agent to the World's Fair.—Gov. Hunt has appointed Benjamin P. Johnson, Esq., Secretary of the State Agricultural Society, Agent of the State to the World's Fair. Mr. J. sailed for London in the steamer Baltic on the 16th ult.

Winter Meeting of the New-York State Agricultural Society.—In connection with the next annual meeting of the society, it has been determined to hold, in this city, an exhibition of fat stock, specimens of grain, &c. A list has been prepared, comprising premiums for the best fat cattle and sheep, the best carcasses of beef, mutton, pork, poultry of all kinds, (dressed,) samples of grain of all kinds, peas, beans, and grass seeds. We belive that such an exhibition, under proper regulations and management, may be made highly useful to the farmer, the dealer, and the consumer. By bringing together large quantities of the best articles, dealers will find it an occasion for making their selections and purchases to advantage, and the comparisons which may be made, will be the means of imparting correct ideas in regard to the quality of meats, and the properties of different breeds of animals in this respect—a point on which information is much needed.

Death of John S. Skinner, Esq., and Hon. Isaac Hill.—These individuals, who have long occupied a prominent position before the public, have lately been taken from us by death. Mr. Skinner was the pioneer in the establishment of agricultural periodicals in this country, having commenced the *American Farmer* in 1819. He has been, for the most part, connected with the agricultural press, from that down to the present time. At the time of his death, he was conducting the *Plow*, *Loom* and *Anvil*. His energy, zeal and devotion to the improvement of the industrial interests of the country, are well known, and for the important services he has rendered, his memory will long be cherished with lively gratitude. His death was sudden and entirely unexpected. It occurred on the 21st of March at Baltimore. It appears that in attempting to leave the post-office in that city, where he had been called on business, he, by mistake, opened a door leading to the cellar, into which he was precipitated, breaking his skull as he fell to the ground. He was taken up speechless, and died in a few hours afterwards.

Mr. Hill died at Washington, from an asthmatic affection with which he had been afflicted many years. He had filled many important political stations, the chief of which were those of United States Senator, and Governor of the State of New-Hampshire. Of late years, he had manifested great interest in agriculture, and had published several volumes of a paper called *The Farmers' Visitor*. He also carried on farming to considerable extent, and was quite successful in the management of a tract of land, near Concord, N. H., which previously to its coming into his possession, was regarded as of very inferior quality. His example in this respect is believed to have been highly salutary and useful in promoting agricultural improvement in the section where he lived.

Apples from Kentucky.—Lewis Sanders, Esq., of Grass-Hills, Ky., has sent us some specimens of a variety of apple produced in his orchard and cultivated to considerable extent in his neighborhood. All the specimens excepting one were so much bruised and injured that their quality could not be fairly judged of. Mr. S. describes it as "a small red apple, highly aromatic, juicy and crisp, very light and pleasant to the stomach. In eating from October to April. I think it is the best apple for the dessert that I have met with." Mr. S. is desirous of ascertaining its name. It is very popular in that part of Kentucky, but he has not met with it elsewhere. Although we have only seen it under unfavorable circumstances, we should say it is worthy of being more extensively known and propagated.

Fowls from Connecticut.—We have received from Mr. Levi Durand, of Derby, Ct., a pair of his white Dorking fowls. They are of good shape and medium size. Mr. D. says, in regard to this stock, "According to poultry fanciers and breeders, they must have five toes on a foot, to be genuine. Some of mine have only the ordinary number of toes, and yet are perfectly uniform in other respects. The cocks have both single and double combs, and the legs and bills of the true Dorking are invariably of a silvery white."

Effects of Railroads on Agricultural Products.—The effects of railroads in modifying the agriculture of different sections, is illustrated by the example of Massachusetts. Since 1840, about 800 miles of railroads have been laid in that state. According to the returns of the assessors, it appears that the number of horses in the state, has increased from 60,030 in 1840, to 74,060 in 1850. This is remarkable, especially when we consider the fact that the railroads have displaced many lines of stages on which numerous horses were employed; and it shows also that the increase of business occasioned by the railroads, gives employment to an increased number of horses. From the same returns we learn that cattle have increased from 278,737 in 1840, to 299,600 in 1850, while in the same period, sheep have declined from

343,390 to 179,537. The produce of wheat has declined from 101,178 bushels to 28,487, while Indian corn has increased from 1,775,073 bushels in 1840, to 2,295,856 bushels in 1850.

FINE FAT CATTLE.—J. M. SHERWOOD, of Auburn, sent to New-York in March last, several very fine fat cattle, among which we particularly noticed a full blood Short-horn cow, *Grace*, and a pair of grade Short-horn oxen, five years old. The cow was ten years old, and had produced several calves. She was remarkable for smallness of bone, as well as for general symmetry, and was of uncommon fatness. Her live weight was 1,850 lbs.—dead weight—quarters, 1,210—hide, 101—tallow, 153—total, 1,464 lbs. She proved to be heavy with calf, which undoubtedly detracted from her weight. The foetus with its appendages weighed 60 lbs. The live weights of the oxen were, 2,300, and 2,110 lbs. We have only received the weights of their quarters, which were, 1,588, and 1,360 lbs.

IMPORTED FRENCH MERINO SHEEP.—Mr. JOHN D. PATTERSON, of Westfield, Chautauque county, N. Y., has lately obtained of Mr. J. A. TAINTOR, of Hartford, Ct., two rams and six ewes, imported from France. Three of them arrived in February last, and the others in the autumn of 1850. Like most others of this stock which have been brought to this country, they are of very large size for Merinos, and appear calculated to produce a great weight of wool. We notice that some of Mr. P.'s sheep have a finer staple of wool than we have generally found in this stock, and one or two of the ewes are almost faultless in shape, and the quality of their wool is quite even and uniform over the body.

AN AGRICULTURAL CONVENTION composed of delegates from the various county agricultural societies in Massachusetts, was held at the State-House in Boston on the 20th of March last, for the purpose of taking measures in regard to the improvement of agriculture. Hon. M. P. WILDER was chosen president, and addressed the convention in relation to the object for which it had been called. Several other addresses were made, and a series of resolutions reported and adopted, one of which recommended the establishment of a Central Board of Agriculture to be composed of delegates from the various agricultural societies of the commonwealth—the Board to meet semiannually or oftener, and to recommend to the societies measures for action; and to consider all subjects pertaining to the interests of apriculture. Another resolution related to the establishment of Agricultural Schools in the State, in which it wa sheld to be the duty of the government to aid; and the last resolution suggested to the legislature the propriety of reserving the proceeds of the sales of the public lands belonging to the State—" from and after the period when the Common School Fund shall have reached the maximum fixed by the act of 1834—for purposes of education and charity, with a view to extending that aid and encouragement to a system of agricultural education."

IMPORTED HORSE CONSTERNATION.—It will be seen by Mr. BURNET's advertisement, that the services of this fine horse are obtainable on very moderate terms.

FLAVOR OF BUTTER.—The market of Philadelphia has long been noted for the quality of its butter. Its peculiar flavor has been a subject of some speculation. G. EMERSON, Esq., attributes it to the Sweet-scented Vernal grass, (*Anthoxanthum odoratum*,) which is said to abound in the pastures near that city. We know of no good reason for this hypothesis, and would interpose a caution against a too extensive use of seed of this grass. It is not liked by cattle, as may be known by noticing that it is often rejected in pastures, when many other kinds, (especially the different species of *Poa*, spire or blue grass,) are eaten to the ground. It is inclined to grow on cold, wet land, and is not a nutritive grass, according to analysis. Its odor is agreeable in hay, though it does not appear to be highly relished by stock in any state.

IMPROVEMENT IN DRILL-MACHINES.—An improvement in drill-machines has been made in England, by which a sufficient quantity of water may be deposited with the seed to insure its germination, even in the driest time. In many instances this may be of much importance. It often happens that sowing must be deferred, after all preparations are completed, or else the seed must be put in the ground with more or less risk of its failure. Sometimes there is barely moisture enough to swell the seed, without fully developing the root and blade, and if it shrinks under these circumstances, it will seldom start again. By wetting the soil, as is said to be done by this drill, so as to bring up the plants quickly, all this risk may be avoided, the crop may be sown without any delay, and may frequently be forwarded considerably from what it could have been if sowing had been delayed till the earth was moistened by rain. For root-crops especially, this will be of much advantage. The same machine also drops ashes, plaster, bone-dust, guano and other fine manure, in the drill with the seed.

SANATARY EFFECTS OF DRAINAGE.—President HITCHCOCK, of Amherst College, in his late report on the Agricultural Schools of Europe, mentions a very striking case of the benefits of drainage on the health ann longevity of the inhabitants of the district. It was a part of a large tract of country in France, over which there was a " scattered and miserable population, the mean length of whose lives did not exceed twenty-five years." The unhealthiness was caused by the periodical inundation of numerous marshes, " which brought pestilence with the overflow." M. Neviere, says President H., " purchased 1600 acres, and in two years succeeded in draining all the ponds, and introducing successful cultivation with the most marked benefit as to health. Before the drainage was finished, the percentage of his domestics, sick with fevers, was as high as twenty from June 15 to October 15. After the drainage the proportion fell successively to six, five, three, and finally to one-half per cent."

"IMPROVED TURBINE WATER WHEEL."—A correspondent in Pennsylvania writes to know, from some one who has this wheel in use, whether it performs all that is claimed for it in the advertisement. (See current vol., page 125.) The particular point on which information is wanted, is stated as follows: " It is said that a seven foot wheel with 28 feet head of water, using 400 inches, will grind 182 bushel of wheat in an hour. How many burrt are required to do this?"

Show of the Royal Society.—We stated in a late number, that the show of this society for the present year, would be held in Hyde Park, during the World's Fair. This was according to the first announcement, but it has since been resolved, on account of the great crowd which will be gathered on that occasion, and the consequent want of room,—to hold the cattle-show, &c., at *Bushy Park*. It will take place on Tuesday, Wednesday, and Thursday, the 15th, 16th and 17th of July. It is expected the display will be equal or superior to any thing of the kind ever made in Great Britain, and it will, doubtless, form one of the most attractive and interesting objects to many of our countrymen who will be in London at that time. The Highland Agricultural Society will hold no meeting this year, on account of the great exhibition; but it is expected that numerous specimens of the best breeds of Scottish live-stock, agricultural products, implements, &c., will be exhibited—thus affording a rare opportunity of making useful comparisons. A trial of implements will take place on the farm of Mr. Pusey.

Suffolk Pigs.—The *New-England Farmer* states J. L. Lovering, of Hartford, Vt., brought to Boston in February last, twelve pigs of the Suffolk breed. Two of them were from twelve to fourteen months old, and weighed over 400 lbs. each. The other ten were from six to ten months old; and some of the latter age weighed 300 lbs. The aggregate weight of the twelve, was 3,470 lbs., or 289 lbs. each. These pigs, it is said, were fattened largely on apples, being fed, also, with small potatoes and some corn meal. This breed of swine was introduced into the country by the late Wm. Stickney, of Boston. It is much esteemed, and the pork of Suffolk pigs sells at a higher price in Boston market than any other.

Yields of Carrots.—We notice that the first and second prizes on carrots given by the Clinton county (N. Y.) Agricultural Society, were for crops yielding as follows: 1,249, and 1,176 bushels per acre—52 lbs. being taken as a bushel.

Large Crop of Corn in Vermont.—We are informed that Mr. Jonathan Hodgeman, Hartland, Vt., raised last year, on one acre of land, 144½ bushels of corn, weighing 59½ pounds to the bushel. The soil was alluvial, lying on the Connecticut river. The evidence in regard to the crop, was such as to satisfy a committee of the Windsor county Agricultural Society, who awarded a premium for the same.

Delaware County (N. Y.) Ag. Society.—This society has offered a very liberal list of premiums for the present year. Their show is to be held in Delhi on the 8th and 9th of October next. We notice the offer of several volumes of The Cultivator among the premiums.

Palmer & Co.'s Artificial Leg.—We would call attention to an advertisement of this article in this number. We have seen the "artificial leg," at some of our State Fairs, and in common with many others, were much pleased with its beauty and perfection.

ANSWERS TO INQUIRIES.

Kephart's Fruit and Vegetable Preserver.—"Has this article been found by experience to answer in every respect the purpose for which it was intended?" H. N., Pa. We have had no personal experience on this subject, but have frequently heard it spoken of as a "good thing." We should like to hear more particularly from those who have used it.

Steeps for Seeds.—"Will you give us your opinion of steeps for seeds. Are they advisable, and will they *pay?*" J. G. C., Jr., Kingston, R. I. The subject of steeping seeds has received less attention lately, than was given to it several years ago. The inference from this is, that steeping has been found less advantageous than was anticipated. In 1844 and '45, many trials were made with various steeps, the results of several of which were reported to us, and will be found in our volumes for those years and for 1846. Muriate and sulphate of ammonia are the substances which have been most highly recommended, and in many instances they seem to have been useful, although considerable uncertainty evidently attends their operation, as we have frequent reports of their having produced no sensible effect on the yield of the crop. It is not advisable to plant seeds which have been soaked in any liquid in very dry ground, as in such cases the moisture is attracted from the seed, and if it has been much swelled the germ will perish.

Culture of the Locust.—A. B. G., Springfield, Pa. Your inquiry was, in effect, answered last month. (See page 139.)

Carter Potatoes.—W. H., Moriah, N. Y. The Carter is a potato of excellent quality for the table, and it has usually sold at a higher price in market than most other kinds; but as an offset to this, it is very liable to be injured by the *rot*—so much so, that its cultivation has been almost discontinued in this vicinity.

Quantity of Flax-seed for an Acre.—O. P. Q., Ohio. The quantity of seed proper for an acre may vary according to the object. If the crop is destined for seed, it is probable less than a bushel might give as large a yield as more; but if lint or fibre is the object, more seed would be required. We notice in the report of a discussion at a late meeting of the Council of the Royal Ag. Society, Mr. Marshall, M. P., said—"With regard to thick and thin sowing, that question had reference to the object of the cultivator, namely, whether a fine fibre and little seed were required, or a coarser fibre with a full crop of seed. On the banks of the Lys, in Belgium, where the finest flax had been grown for centuries, and used for making the finest lace, they practiced thick sowing, 3½ bushels per acre, and obtained about 14 bushels of seed per acre; but the stems were long and straight, without branches, and the longest fibre was obtained. In Ireland and Russia thin sowing was practiced, from 2 to 2½ bushels per acre, and from 16 to 20 bushels of seed were obtained; but the stems of flax branched out more, and an inferior fibre was the result.

Preparing Sweet Corn for use in Winter.—J. C., Tariffville, Ct. We believe the common mode of preparing this article, is to scald the corn by pouring hot water on the ears, and afterwards cutting off the corn and drying it in the sun. We have known it prepared in another way. When the corn is in proper state for boiling, the outer husks are stripped from the ear, leaving on the inside layer. The ears are packed in strong brine in a tight barrel. When wanted, the husk is taken off, the corn cut off and soaked in fresh water for twenty-four to thirty-six hours, or until the salt is entirely extracted. It is then boiled in the same manner as ordinary corn.

◆

Hussey's Reaping Machine.

EDITORS OF THE CULTIVATOR.—As the inventor of what is known as Hussey's Mowing and Reaping Machine, I am not willing to be held responsible for the operation of such machines as are not built by myself, at my manufactory in Baltimore. If those persons in other parts of the country, who are building by permission, and those who are infringing on my rights, do not keep up with my improvements, it is unjust that their machines should be allowed to give a character to my own. You will therefore please admit into your advertising columns the experience of those who have used my Baltimore made machines, and oblige yours, OBED HUSSEY. *Baltimore, Md., March* 10, 1851.

◆

Wool Market, April 12, 1851.

The stock of wool, both fleece and pulled, is light. Very little can be said about prices, as they depend much upon the necessities of the purchaser. It may be observed, however, that though the stock on hand is small, prices have somewhat receded; the manufacturers of some styles of goods, preferring to work short time, or stop altogether, (after working up their stocks on hand,) rather than pay the high prices of January and February last. Some of them finding that they could realize a greater profit by selling their wool than by working it, have adopted that course. Wool of the ensuing clip is being contracted for in some of the Western States, particularly in Ohio, at highes rates than the prices in the eastern markets, even now, will warrant.

We quote full blood Saxon,	50 to 55
" " Merino,	46 to 48
¾ " Merino,	42 to 44
Native to ½ Merino,	37½ to 41

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.

May 1—1t. G. H. BARR.

Palmer's Patent Leg.

Manufactared by Palmer & Co., Springfield, Mass

New-York State Agricultural Rooms, Sept., 1850.

Extract from the report of the Committee to whom was referred Palmer & Co.'s Artificial Leg:

PALMER & CO., Springfie'd, Mass. An Artificial Leg, which seems to be an admirable substitute for the real, being wonderfully adapted to perform the various functions of the natural limb. A Silver Medal. B. P. JOHNSON, Cor. Sec'y.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel WOOL on Commission From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for CASH.

The charges for receiving, sorting and selling will be ONE AND A HALF CENTS PER POUND, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—c.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Mowing Machine Wanted.

THE subscriber wishes to procure a Mowing Machine, which can be driven with two moderately sized horses, without extra exertion—one that will mow closely, and which will conform itself to slight elevations in the ground.

Information directed to me, at Durham, Connecticut, will be thankfully received. DAVID LYMAN.

May 1—1t.

600 Barrels of Bone Charcoal or Burnt Bones, ground, at $2.00 per Barrel, for sale, by G. H. BARR,
No. 25 Cliff st., New-York.

May 1—1t.

Important to Wool Growers.

I PROPOSE to sell twenty-five pure Pauler Merino Ewes, with Lamb, by a French Merino Buck, purchased of A. L. Bingham of Vt.; also twenty-five yearling Ewes, from my Pauler Ewes and French Buck; also a few choice Bucks. My flock originated from *R. V. R. Horton's flock, Rutland county, Vt. I purchased eleven Ewes and one Buck in the winter of forty-five; I have also had Bucks of Avery of Saratoga, at different times. I will sell at prices within the reach of common Farmers.

Otisco, May 1—2t. N. H. NOYES.

P. S.—Any one wishing to get some good sheep could satisfy themselves by calling at shearing time. Any information wanted address N. H. Noyes, Otisco, Onondaga county.

* A description of Mr. H.'s sheep can be found in the vol. of the Cultivator published in forty-five and six.

New Subsoil Plow.

THE subscriber offers for sale an improved Subsoil Plow, made under the advisement of Professor J. J. Mapes, and free from the objections urged against those formerly in use. The wearing parts are so arranged that they may be easily and cheaply renewed; while the amount of force requisite to move them is less than half that required by those previously made.

Price for No. 1, plain	$7 00
" " with Draft Rod	8 50
" No. 2, " "	11 00

To be had at the State Agricultural Warehouse, No. 25 Cliff street, New-York. May 1—1t. G. H. BARR.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at 37½ cents per week, but entirely at the risk of the owners.

Syracuse, May 1, 1851—3t. J. B. BURNET.

Anti-Pyric Paint, Fire, Weather, and Water Proof.

Manufactured by THE NEW-YORK ANTI-PYRIC PAINT COMPANY, for the roofs of Dwellings, Warehouses, Bridges, Fences, and all Articles that require Protection from Fire, Weather, or Water.

TO THE PUBLIC.—The Anti-Pyric Paint Company are prepared to fill orders for their incomparable Anti-Pyric Paint. They wish it to be distinctly understood, that their Paint is distinct from any of the various *ground rocks, slates, clay or mud*, which are puffed and sold in the market as fire proof paint. The Paint offered by this Company is manufactured from proper materials only, scientifically prepared and combined and as such it is offered to the public, with the full assurance that in its protective properties against Fire and the Elements, it is superior to any article ever used in the form of Paint; and that, after al. the earths and native Paints, (so called) have had their day and failed, the Anti-Pyric Paint alone will maintain its reputation as a perfect protection against the weather, falling sparks or cinders, and a not too immoderate heat from the direct action of Fire. It has no deleterious articles in it, will not crack, peel off, or wash away, but hardens by time and becomes permanent and imperishable by age! Thousands have used it for the last three years without a single failure.

Constantly on hand and for sale at the Depot of the Company, by GEO. G. SHEPPARD, their sole agent, 187 Water street, New-York, where may be had Certificates of its qualities, and full directions for using it. May 1—2t.

1000 MEN WANTED

TO CIRCULATE THE FOLLOWING

USEFUL BOOKS FOR FARMERS,

And all who are interested in Agriculture, Horticulture, &c.

C. M. SAXTON,

AGRICULTURAL BOOK PUBLISHER,

123 Fulton st., [up stairs,] New-York,

TAKES pleasure in announcing to the Farmers, Gardeners and Horticulturists of the United States, that he has added a large number of Books to his list of Publications, and is prepared to offer great inducements to Travelling Agents, and here let it be distinctly understood that, as we do business on the CASH PLAN, it will be necessary for persons who apply for an agency to have a capital of from $25 to $100, to start with,—and with such an assortment, adapted to the actual wants of the "People," no person with the right kind of energy can fail to make good wages. In fact it is a RARE CHANCE for Agents to MAKE MONEY. [Address post paid,]

C. M. SAXTON, Agricultural Book Publisher,
No. 123 Fulton street, [up stairs,] New-York.

American Farm Book; or, Compend of American Agriculture. Containing a concise and plainly written Exposition of Duties pertaining to the Cultivation of the Earth, the Management of the Farm, &c., &c., on practical scientific principles. By R. L. ALLEN. Price, in cloth, $1; mail ed., paper cover, 75 cents.

Treatise on Domestic Animals [Illustrated.] Being a history and description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm Dogs, with Directions for their Management, Breeding, Crossing, Rearing, Feeding; also, Directions for the Management of the Dairy. By R. L. ALLEN. Price, cloth, 75 cts.; mail ed., paper cover, 50 cents.

American Poultry-Yard. Comprising the Origin, History, and Description of the different breeds of Domestic Poultry, with Directions for their Breeding, Crossing, Rearing, Fattening, &c. By D. J. BROWNE and SAMUEL ALLEN. Illustrated by numerous Engravings. Price, cloth, $1; mail ed., paper, 75 cts.

American Bird-Fancier; considered with reference to the Breeding, Feeding, Management, and Peculiarities of Cage and House Birds. By D. J. BROWNE. Illustrated with engravings. Price, cloth gilt, 50 cts.; cheap ed., paper, 25 cts.

Southern Agriculture: being Prize Essays on the Cultivation of Corn, Hems, Tobacco, Wheat, &c. and the best mode of Renovating the Soil. By ADAM BEATTY. Price, cloth, $1; paper, 75 cts.

Sheep: their *Breeds*, *Management*, *Structure* and *Diseases;* with Illustrations, and an Appendix of Valuable Tables, &c. By HENRY L. CANFIELD. Price, cloth, $1; paper, 75 cts.

Complete Farmer and *Rural Economist.* By Thomas G Fessenden.

American Gardener. Containing Practical Directions on the Culture of Fruits and Vegetables, Landscape and Ornamental Gardening, &c., &c. By Thomas G. Fessenden. The two works bound together, making about 700 pages, mail ed., $1, cloth, $1.25.

Prize Essays on Manures, submitted to the Trustees of the Massachusetts Society for Promoting Agriculture. By S. L. Dana. Price, 25 cts.

Treatise on the Cultivation of the Grape-Vine on Open Walls, with a descriptive account of an Improved Method of Planting and Managing the Roots of Grape-vines. By Clement Hoare. To which is added an Appendix, containing Remarks on the Culture of the Grape-vine in the United States. Price, cloth, 50 cts.; paper, 37 cts.

Elements of Agricultural Chemistry and Geology. By James F. W. Johnston. Price, cloth, 50 cts.; paper, 40 cts.

Lectures on the Applications of Chemistry and Geology to Agriculture. By James F. W. Johnston. New edition, with an Appendix, containing Suggestions for Experiments in Practical Agriculture. Price. cloth, $1.25 cts.; paper cover, for mail, $1.

Lectures on the General Relations which Science bears to Practical Agriculture, delivered before the New-York State Agricultural Society. By James F. W. Johnston. With Notes by an American Farmer. Price, cloth, 75 cts.; mail ed., paper, 50 cts.

Family Kitchen Gardener. Containing plain and accurate Descriptions of all the Different Species and Varieties of Culinary Vegetables, with the Best Mode of Cultivating them in the Garden, or under Glass, &c.; with twenty-five Engravings. By Robert Buist. Price, cloth, 75; paper, 50 cts.

American Bee-Keeper's Manual. Being a Practical Treatise on the History and Domestic Economy of the Honey-Bee. By T. B. Miner. Price, cloth, $1; paper, 75 cts.

Sheep Husbandry. Comprising a Treatise on the Acclimation of Sheep in the Southern States; also, a Complete Manual of Breeding, Summer and Winter Management, and of the treatment of Diseases, with seventy-five Illustrations. By Henry S. Randall. Price, cloth, $1.25; paper cover, for mail, $1.

Book of the Farm. Detailing the labors of the Farmer, Steward, Plowman, Hedger, Cattle Man, Shepherd, Field Worker, and Dairy Maid. With numerous Engravings. By Henry Stephens. To which are added Explanatory Notes, Remarks, &c. By John S. Skinner, Esq. Forming two volumes octavo, of over one thousand pages. Price $4.

Chemistry Made Easy for Faamers. By J. Popham, price, 25 cts.

American Fruit Culturist. Containing Directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with descriptions of the principal American and Foreign varieties. Illustrated with three hundred accurate Figures. By J. J. Thomas. Price, cloth, $1; paper, 75 cts.

The American Architect. The cheapest Architectual work ever published in the United States. Carpenters and others designing to build, would find this publication to be a valuable aid. Country builders, especially, would derive substantial assistance from the Details and fully-particularized Specifications. It consists of Original Designs of Country Dwellings. Each number contains a Perspective View, two Elevations, two Plans, a Plate of Details, and fully described Carpenter's and Mason's Specifications. Now complete, in 24 Numbers, at 25 cts. each, or $5 for the 24 Numbers, $6 bound in 2 vols.

Domestic Medicine; or, Poor Man's Friend in the Hours of Affliction, Pain, and Sickness. By J. C. Gunn. It contains 900 pages octavo, at the low price of $3.

Youatt and Martin on Cattle. Being a treatise on the Breeds, Management and Diseases, comprising a full History of the Various Races, their Origin, Breeding and Merits, their *Capacity for Beef and Milk*; the nature and treatment of their Diseases; the whole forming a *Complete Guide* for the Farmer, Amateur and the Veterinary Surgeon, with over 100 Illustrations. Edited by AMBROSE STEVENS. Bound in cloth, $1.25.

Youatt on Sheep. A new edition just ready. Price, 75 cts.

May 1—1t.

VALUABLE BOOK.

ERASTUS H. PEASE & CO. 82 State-Street, Albany, publish

Elements of Scientific Agriculture, or the connection between Science and the Art of Practical Farming. (Prize Essay of the New-York State Agricultural Society.) By JOHN P. NORTON, M. A., Prof. Scientific Agriculture in Yale College. 12mo. cloth, extra.

Brief extracts from a few of the many testimonials:

We agree with the Report of the Committee of the New-York State Agricultural Society, and our friends in the neighboring states, and commend this work to the attention of Farmers and Teachers in Canada.—*Toronto Globe, Jan.*, 1851.

☞ At a meeting of the Regents of the University, in October last, it was

On motion, resolved, that the study of Agricultural Chemistry, be deemed one of the higher branches of English Education, and that it be so recognized in the annual distribution of the amount granted to academies.

Resolved, That the committee on the establishment of Common School Departments in Academies, of which the Secretary of State is chairman, be instructed to inquire, whether this study should not be required of all students in said departments.

The Proceedings of the St. Johns Agricultural Society of the British Province of New-Brunswick, show that they have procured 1,000 copies, for distribution among the Agricultural Societies of that Province.

The subject is very ably discussed, and elucidated in clear and comprehensive language, such as would not discourage the young inquirer, nor dissatisfy the adept in such branches of scientific research. The task is well done, and we feel indebted to Prof. Norton for opening another pleasant avenue to agricultural knowledge and practice.—*Maine Farmer.*

This work is published under the immediate auspices of the New-York State Agricultural Society, and is a full, complete, and comprehensive exposition of the fundamental principles of practical and scientific agriculture. We trust it may find its way into every School District Library in the state—*District School Journal.*

Our high expectations have been fully met. Prof. Norton, has a common sense way of presenting the various topics connected with agricultural science, and it is to the *common sense* of every man that his conclusions commend themselves. Would that every farmer in Michigan were in possession of this book.—*Michigan Farmer.*

There is not a printed book in the Union which could have been more acceptable. We are but novices in the great art of agriculture, and any thing that will give us light, we hail with gratitude and pleasure. We shall, from time to time, give our readers extracts from the work.—*Columbus (Ga.) Enquirer.*

We doubt not the judgment of the New-York State Agricultural Society, who awarded to it its prize, will be fully confirmed by the community.—*The New-Englander.*

We should be happy to see it introduced into all the schools, and the family of every farmer in this country.—*Canadian Agriculturist.*

Its language is plain, its illustrations simple. It is a work for the farmer, and the farmer should read it, and teach it to his children.—*Genesee Farmer.*

Orders from County Societies, Schools, and individuals, invited. Liberal terms offered, where considerable quantities are ordered.

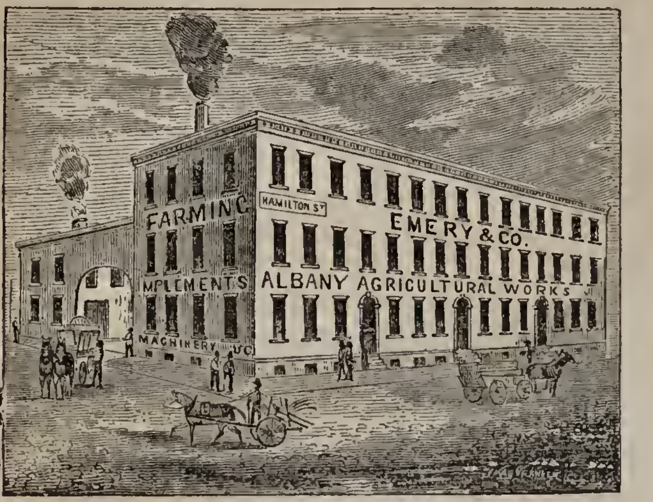
May 1—1t. E. H. PEASE & CO., 82 State-st., Albany.

The Mambrino Horse Washington.

THIS Celebrated Horse will stand the present season at North Ferrisburgh, Addison County, Vt. Washington was bred by John Thorn of Washington, Dutchess County, N. Y.—is a beautiful dark bay, over 16 hands, well proportioned, having great action, and possessing a great share of bone and sinew. Washington was got by Mambrino Paymaster, and Mambrino Paymaster by Mambrino, and Mambrino Paymaster's Dam by the imported Horse Messenger. Washington's dam by Mount Holley, grand-dam by True Britton, Mount Holley by the imported Horse Messenger, and dam by Bagazette. It will be readily perceived that Washington combines the best blood ever imported to this continent, and is adjudged to possess more good points and symmetry of proportion, than any other horse of his age, having taken the First Premium at the Dutchess County Agricultural Fair, in the fall of 1847, and the First Premium at the Addison County Fair last fall, on a field of eleven stallions, most of which were the stock of the original Black Hawk. All who are desirous of raising high-priced horses, are requested to call and examine the Horse and his stock.

THOMAS R. NOONAN
ANDREW HOLMES,
Proprietors

May 1—2t*



EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Rail Road Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and in competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April.] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust. and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommand and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder. about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect. and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities. as to enable us to make all parts of all our own machines. and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..	$85 00	
do do Thresher and Separator,.	35 00	
do Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do Two Horse Power,.................	110 00	
do do Thresher and Separator,..	35 00	
do Bands, oiler, wrench. &c.,...........	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,..		$75 00
do Saw Mill, complete for use,.............		$35 00
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,...............	$75
Two Horse Power,...............	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway, Albany, N. Y.

.D. APPLETON & CO.,
PUBLISHERS, 200 Broadway, New-York.

Downing's Cheap Cottages and Farm Houses, adapted to the United States. Price $2.00.

THIS volume is Part I. of Downing's "COUNTRY HOUSES." published separately, at half the price of the entire work. It contains numerous designs for Cottages and Farm Houses, of moderate cost, varying from $100 to $4,000, and will be found especially adapted to the wants of the American people, who wish to build convenient, comfortable, and tasteful homes, at a very moderate expense. The volume contains all the latest improvements in building, and the use of materials, with plans for barns and stables, and much valuable practical information on the construction and arrangement of Cottages, both in the country, and the suburbs of towns.

*** Part II. of this work contains Villas, with the Interiors and Furniture of Country Houses, remarks on Warming and Ventilation, etc.

The whole work complete, called the "ARCHITECTURE OF COUNTRY HOUSES," with three hundred and twenty engravings, is sold at $1.00.

NOTICES OF THE PRESS.

"This book will effect more in the way of making a general and healthy taste for Architecture, even in the cheapest dwellings, than anything which has yet been issued from the press."—*N. Y. Courier and Enquirer.*

"This work is eminently a contribution to knowledge, a combination of just such knowledge as was wanted, and the general communication of which, to the minds of our wide-spread population, will accomplish an inestimable service. If our mechanics and tradesmen in moderate circumstances, will consult the Drawings, they will find that very limited pecuniary resources are sufficient to secure a dwelling that will satisfy their necessities, and minister to their comfort, as no paste-board Villa or Gingerbread Castle, ever could."—*New-Englander.*

"No work of more practical and general value, has been issued from the American Press for a long time."—*Albany Atlas.*

"Mr. Downing has a great and deserved reputation, but he has never before produced so elaborate and splendid a volume as the Country Houses."—*Boston Post.* May 1—1t.

Barry's Fruit Garden.

CHARLES SCRIBNER. (Late Baker & Scribner,) New-York, has just published the FRUIT GARDEN, a Treatise intended to illustrate and explain *The Physiology of Fruit Trees, The Theory and Practice of all operations connected with the* PROPAGATION, TRANSPLANTING, PRUNING AND TRAINING OF ORCHARD AND GARDEN TREES, AS STANDARDS, DWARFS, PYRAMIDS. ESPALIERS. &c.- *the Laying out and arranging different kinds of Orchards and Gardens. the Selection of Suitable varieties for different purposes and localities, Gathering and Preserving Fruits, Treatment of Disease, Destruction of Insects. Descriptions and Uses of Implements. &c.,* ILLUSTRATED WITH UPWARDS OF ONE HUNDRED AND FIFTY FIGURES. representing Different Parts of Trees, all Practical Operations, Forms of Trees, Designs for Plantations, and Implements. &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

CONTENTS.

PART I. Describes the different parts of Fruit Trees—Roots, Stems. Branches, Leaves. Blossoms and Fruit; explains their different Characters, Functions, and Practical Classifications. It treats, also, of soils and manures, of the best Modes of Propagation, and the General Principles and Practice of Pruning.

This part is a new feature in Treatises of this kind, and is intended to be the ground-work of all the operations of culture.

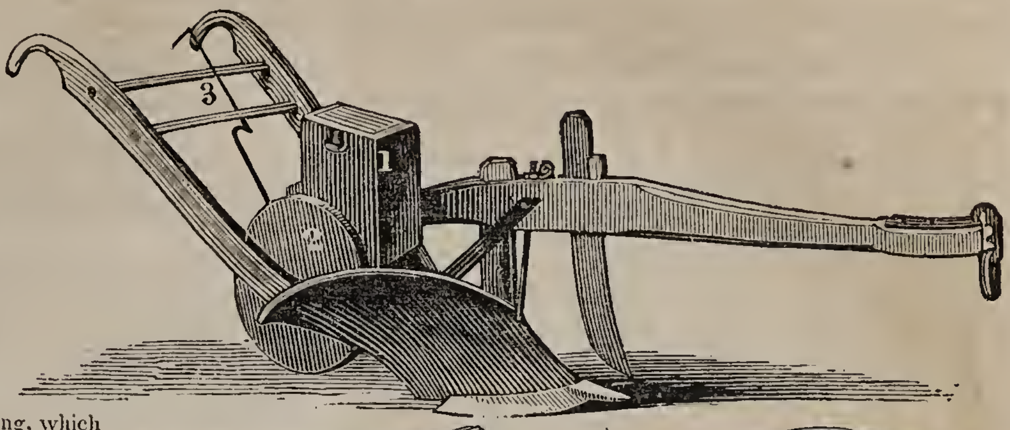
PART II. Treats of the Propagation and Management of Trees in the Nursery in detail. both Standards and Dwarfs. beginning with the Stocks, and ending with taking up the Trees. The various kinds of Stocks, their particular Uses, &c.. are all correctly described.

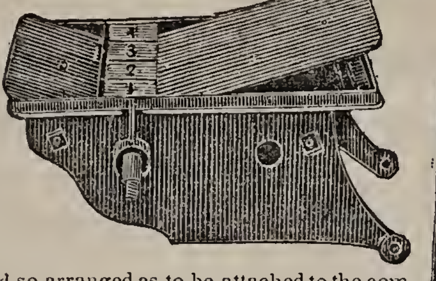
PART III. Treats of the Laying Out and Arrangement of different kinds of Orchards and Fruit Gardens, the selection of Trees and Varieties, Planting, Pruning and Training of Standards, Dwarfs, Pyramids, and various other forms. in a manner not attempted in any other American Treatise, and calculated to furnish important information much sought for at this time.

PART IV. Contains Abridged Descriptions of all the best Fruits of well established merit. with selections for various purposes and localities, and lists of new and promising varieties: also, a chapter on Diseases and Insects: another on Gathering and Preserving Fruits, and one on the more important implements used in Fruit Culture. The work is so arranged that any branch of the subject can be readily referred to, and contains upwards of one hundred and fifty figures, illustrating the different parts of Trees. different forms. Modes of Propagation, Pruning, Training, &c. CHARLES SCRIBNER,

May 1—1t. 36 Park Row and 145 Nassau-st.

Wm. Croasdale's Patent Seed Drill and Broadcast Sower.





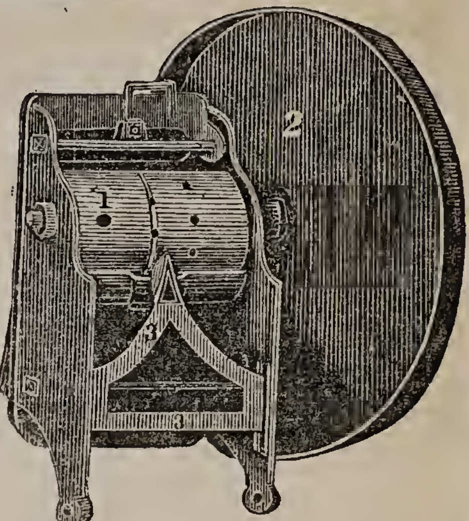


Figure A shows the Plow and Drill complete. No. 1 is the *Seed Chest*—No. 2 is the *Driving Wheel*—No. 3 is an *Iron Rod* to stop the planting by raising the wheel clear of the ground—the Rod being made to hook on the lower round of the plow for this purpose.

Figure B shows the Drill without the Seed Chest—the opening to let out the seed is closed by four small shutters moving on hinges—No. 1 is opened for *Turneps, &c.*—No. 2 for *Peas, &c.*—No. 3 for *Wheat, Rye, &c.* No. 4 *Corn.*

Figure C is the Drill turned up so as to show the under side whence the seed is let drop. No. 1 is the *Cylinder;* No. 2 the *Driving Wheel.* No. 3 is the *Spreader* for broadcast sowing, which may be taken out or moved back when you wish to plant in *drills.* A different spreader will be furnished when narrower drills are required.

THE manifold advantages of drilling-in wheat over the *usual* method of sowing *broadcast,* are now universally conceded by the informed practical farmer, and it has long been a desideratum to find a simple, convenient and effective apparatus for drilling, at a price which would place it within the reach of all. This drill is offered to the agricultural community with the confident belief that it will fully meet this want. Adapted in its construction, not only for drilling-in wheat, &c., but also for planting corn and other seeds, and so arranged as to be attached to the common furrowing plow, and to perform perfectly its work while the indispensable process of plowing is going on, without any additional labor, it must be apparent that it has great advantages over any other seeding machine yet invented.

It is affirmed by those who have used this Drill, that one and a half bushels of wheat to the acre put in with it, are fully equal to two bushels sown broad cast, in the usual way: first, because of the exact regularity with which the seed is deposited in the ground, and secondly, being all covered at uniform depth, the seed is protected from the birds, and from the effects of freezing and thawing weather of the winter; and thirdly, the seed being properly covered, every blade will have good root and the crop be better prepared to withstand drouth.

Thus any farmer who sows only twenty acres of wheat will save in seed alone, the first year, by the use of this Drill, its entire cost, besides having his crop put in better than it can possibly be done by hand, and with less labor.

Corn may be planted with these Drills in hills of one, two, or four feet apart at the first striking out, thus saving the cross furrowing, and also the labor of dropping. Drills can also be made to order, to plant corn in hills at *any* distance apart that may be required.

These Drills are now set to sow one and a half bushels of wheat, weighing 60 lb. to the bushel, to the acre, in furrows ten inches wide. It will also sow wheat broadcast, perfectly, by attaching the spreader directly under the *wheat* cavities. Full directions for *changing* the quantity per acre, with other information, may be found on the inside of the lid.

By actual experiment it has been found best not to plant deeper than three inches.

Manufactured and for Sale by JOHN G. BRENNER, 41 Market street, Philadelphia, and WM. H. CARR, No. 5 Commerce street, Philadelphia.

RECOMMENDATIONS.

Hartsville, July 22, 1850.

MR. WM. H. CARR.—Dear Sir: You ask my opinion of William Croasdale's Patent Seed Drill; last fall I used the first or second one that was made, to put in my wheat, and do not hesitate to say, that I consider it superior to any Drill that I have ever seen, combining more advantages. It works to perfection, is not liable to get out of order, being simple in construction, and being so well adapted to so many kinds of seeds, think it must to a very great extent take the place of all others.

The low price is also an important consideration, as it brings it within the means of every farmer, but I would prefer it to any that I have seen, costing five times as much, or more. Respectfully yours, GEORGE BROWN.

We the subscribers, having used William Croasdale's Patent Seed Drill, or seen it used, and seen the wheat planted with it in its various stages from the planting to its maturity, do unhesitatingly recommend it as the best and most economical, combining more advantages than any Drilling machine we have seen. Its adaptation to so many various kinds of seed, Wheat, Rye, Corn, Broom Corn, Turnip Seeds. &c. &c., the certainty of distributing the exact quantity required either in drills or scattered over the furrow, the saving in labor and seed, its fitness for any land where a plow can be used for plowing-in, and the low price of the article, (which will be saved in seed alone in the planting of 20 acres,) bringing it within the means of all, are important considerations, and certainly give it a decided advantage over the large Drills, or any that we have seen in use.

JOHN ENGART, Warminster township, July 21, 1850.
JAMES WALLACE, Warwick, July 24. 1850.
WM. H. LONG, Warminster township, July 24, 1850.
ROBERT B. FORTEN, Warminster township, July 24, 1850.
THOS. W. F FORTEN, Warminster township, July 24, 1850.
CHARLES BIRD, Hartsville, July 21. 1850.
JOSEPH CARR, JOSEPH CARR, Jr.. JOHN DUNLAP, ANDREW CRAVEN, HIRAM A. CARR, THOMAS BIRD. SAMUEL CRAVEN, JOHN B. RAMSEY, JOSEPH HART, Warminster township, July 25, 1850.

Newtown, November 21, 1850.

I certify that I used Croasdale's Patent Seed Drill in putting in a portion of my wheat, in September last. The wheat drilled in was one bushel and a half per acre; the adjoining land was sown broadcast at the rate of two bushels an acre. The drilled wheat came up quite as thick and much more vigorous than that sown broad-cast, and I think is larger at the present time. I am perfectly satisfied with the operations of this drill. It scatters the seed most satisfactorily over the furrow, and saves the labor of harrowing the ground. From the appearance of the wheat, I now regret that I had not put my whole crop in with the Seed Drill. PHINEAS JENKS.

P. S.—This DRILL can also be adapted to the sowing of Guano.
Price $12 50. Philadelphia, May 1—1t.

DAIRY SALT.

THE attention of Dairymen is particularly called to a very superior article of STEAM REFINED ROCK SALT, prepared expressly for the Dairy at the City Steam Mills, Albany.

The salt now offered is a pure article, free from specks, white as snow and sparkling as crystal. There is no excuse for a deficiency of cleanliness, and the difference in the price of a pure, clean article, is of little consequence, and scarcely felt. Butter known to be made with this salt, commands a better price and will sell much more readily in this market. For sale by the bushel, or in bags of one peck each, by C. N. BEMENT,
March 1—3t. 11 Hudson street, Albany

The American Live Stock Insurance Company,
At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. [☞Capital $50.000!☜] For the Insurance of *HORSES, MULES, PRIZE BULLS. SHEEP AND CATTLE,* of every description, against the combined risks of *Fire. Water. Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*
Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Devon Stock for Sale.

TWO fine Devon Cows, 3 and 6 years old; also a fine yearling Bull and Heifer.

The subscriber offers the above for sale, of pure blood, and bred from the best stock in the country. FRANCIS W. COWLES.
Farmington, Conn. Nov. 23, 1850. Dec. 1—6t.

DEVON BULL.

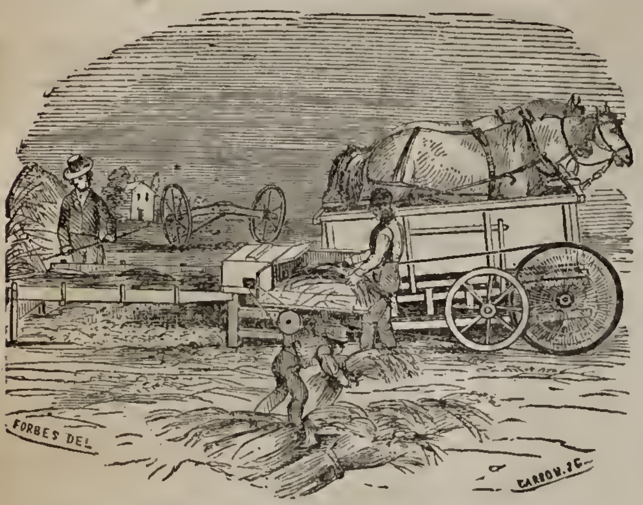
FOR sale, a full bred Devon Bull, 3 years old in July last, bred by H. N. Washbon, Otseso county, from the celebrated stock of Mr Patterson, Baltimore. A choice animal, and a good stock getter. Price $100. J. W. COLLINS.
Smyrna, Chenango Co., N. Y. April 1.—2t

New-York State Agricultural Works.

AGRICULTURAL MACHINES & IMPLEMENTS.

Wheeler, Melick & Co.

CONTINUE their manufactory at the corner of HAMILTON and LIBERTY STREETS, ALBANY, where they are prepared to fill all orders with despatch. Orders for



Wheeler's Patent Railway Chain Horse Powers

and OVERSHOT THRESHERS and SEPARATORS, will receive their prompt attention.

☞ The large and increasing demand for these Machines has induced the Proprietors to erect a New and Spacious Manufactory, and otherwise extend their means of promptly filling orders. Their Powers and Threshers have been sold in nearly every State in the Union, during the past year, and their superiority has been acknowledged by numerous testimonials, not only from Agricultural Societies but from persons who have used them. They have been awarded the First Premiums at all the principal Fairs where they have been exhibited in operation, including the Pennsylvania State Fair, the Provincial Fair of Upper Canada, and the Michigan and Ohio State Fairs, together with numerous County Exhibitions in the different States.

THE TWO HORSE MACHINE, with from three to five hands, will thresh from 125 to 200 bushels of Wheat per day, or twice that quantity of Oats.

The One Horse Machine will thresh rather more than half that quantity.

PRICE AT ALBANY:

For Two Horse	Machines,	$145 00
For one Horse	do,	$120 00

Machines will be shipped to any part of the United States or the Canadas.

The subscribers are now shipping Powers and Threshers to their agents on the Mississippi and Ohio rivers, and in the interior of the States, bordering on those rivers, and to all the principal ports on the Lakes, as well as to their numerous agents in the interior of the Lake States. They will be delivered at all our agencies with only the cost of transportation added to our home prices. Persons wanting to purchase, may by writing to us, learn where they can obtain our machines most conveniently.

N. B.—*Our* Machines *are warranted* as heretofore *to work to the satisfaction of the purchaser*, or they may be returned within 60 days after they are received, and the purchase money (if paid) will be refunded.

We want a few more agents in most of the States. To competent men who can give satisfactory references, liberal commissions will be allowed. WHEELER, MELICK & CO.

Corner of Hamilton and Liberty-streets, Albany, N. Y.
April 1, 1851. (near the Steamboat Landing.)

CAUTION.

THE subscribers, patentees of WHEELER'S PATENT HORSE POWERS, having noticed that an Agricultural Firm is advertising that Wheeler's Patent Horse Powers and Overshot Threshers are manufactured and sold by them, when in fact they have not obtained from us any liberty to use our patent, we hereby caution all persons that said Firm has no right to use our Patent, or to manufacture or sell said Horse Powers, and that a sale by them will confer no right upon the purchaser to use such Power.

Messrs. WHEELER, MELICK & Co., of Albany, and their agents, are the only persons authorised to make or sell Wheeler's Patent Horse Powers; and every such Power made or sold by them, or by any person having a License to do so, has upon one of the Cast Iron Semi-Circles, at each end of the Power, the words

"Wheeler's Patent—Wheeler, Melick & Co., Makers, Albany, N. Y."

A due attention to this fact will enable Purchasers to avoid imposition and fraud.

No person or firm in Albany, except WHEELER, MELICK & Co., is authorised to make or sell said Horse Powers.

April 1. A. & W C WHEELER, Patentees.

Just Published,

A PRACTICAL Treatise on the Construction, Heating and Ventilation of Hot Houses, including Conservatories, Green Houses, Graperies, and other kinds of horticultural structures, with practical directions for their management, in regard to light, heat, and air, with numerous engravings, by Robert B. Leuchars. Price $1. For sale by J. M. THORBURN & CO., 15 John street, New-York Feb. 2.

AGRICULTURAL WAREHOUSE,

193 *Front Street, New-York.*

THE Subscriber would call the attention of those purchasing, to his extensive assortment of *AGRICULTURAL IMPLEMENTS.*

"*Highest Premium*" *Plows*, which were awarded the highest premiums in 1846, 1847, 1848, 1849, and 1850.
Also, *Eagle Center-Draught*, and all Plows in general use.
Corn Shellers, with single and double hoppers.
Straw Cutters—Hoveys's, Green's, Sinclair's and others.
Horse Powers—Badger's Improved, and Bogardus' Patents
Fan Mills—Grant's Premium, and Clow's Rotary Screw.
Threshing Machines—Corn and Cob Mills, Grist Mills, Cultivators, Harrows, Grain Cradles, Rakes, Scythes, Forks, &c., &c.

March 1—3t. JOHN MOORE.

POUDRETTE.

THE Lodi Manufacturing Company offer their Poudrette for sale at their usual prices, viz: $1.50 per barrel, for any quantity over six barrels, delivered free of cartage on board of vessel, in the city of New-York. The article offered this year for sale, will have the advantage of being freshly manufactured.

☞ The company's office is 74 Cortland Street, New-York city, a few doors from the ferry. Address "THE LODI MANUFACTURING COMPANY, NEW-YORK," *post-paid.* April 1, 1851—3t.

The Morgan Horse, Young Gifford.

THIS fine Horse, of the genuine Morgan breed, will stand the coming season, at the stable of the subscriber, in Farmington, Ct., for the use of Mares. Young Gifford was bred in Walpole, N. H., and was got by Old Gifford Morgan, his dam a pure Morgan. He will be four years old in May next, and is one of the best specimens of this distinguished breed. The Morgans are so well known and admired throughout New-England, that it is unnecessary to repeat their merits.

TERMS—$5 dollars for a single service. $8 the season. $10 insurance. WM. L. COWLES.

Farmington, April, 1851—2t.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

JOHN MAYHER & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultural Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co.
March 1—tf. 197 Water Street, New-York.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of Full Bred Short-horns and Improved Dairy Stock, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved Dairy Stock, which is composed of the finest Short-horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short-horns.

I am now breeding the Short-horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the First Prize as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my Imported Bull "Lord Eryholme," or my celebrated Bull "Lamartine."

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not as yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck "Babraham." Some of their Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous Herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25, (say twenty-five dollars,) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either of my Bulls, which he shall choose. I will give $25 for any heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent a distance, will be delivered on shipboard or railroad in the city of New-York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post, please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New-York, by Harlem Railroad. April 1.—3t L. G. MORRIS.

MORSE'S GREY.

THIS celebrated Horse was awarded the first premium of $20, at the great New-York State Fair in Sept., 1850, where he was exhibited with a large number of his colts, and was judged the best stock-horse for "all work" in this country. Said horse has trotted his mile in two minutes and forty-six seconds. One of his colts took the first premium at the State Fair at Saratoga Springs; he was owned by Mr. Milliman, of Washington county, N. Y.—and in all places where this stock has been exhibited, they have carried off the best premiums. He is a beautiful dapple grey, 15¾ hands high, strongly and finely proportioned.

This Horse is a descendant of the "Dilligence horses" in Italy, and brought from there by Napoleon Bonaparte, into France. His sire was brought to Quebec, and was then sold to a gentleman by the name of McNit, of Washington county, N. Y. His dam was of the Messenger breed.

Said Horse was raised by Mr. J. Mills of Argyle, Washington county, N. Y. We challenge any horse in this State to show as fine stock as said Horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150, to $500, and $1000.

Terms $10 the season. Insurance to be agreed upon. Said Horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to I. T. Grant, P. M., Junction, Rensselaer county, N. Y., will receive prompt attention.

CALVIN MORSE,
April 1, 1851—3t. I. T. GRANT.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

Seeds.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a yaar.

A. B. ALLEN & CO.,
Merch 1—tf. 189 and 191 Water street, New York.

GREAT SALE OF SUPERIOR THOROUGH
Bred Short-horn Cattle.

THE subscriber, having more stock than can be sustained on his farm, will offer at public auction about 30 head of his Improved Short-horn Cattle, consisting of Bulls, Cows, Heifers, and Heifer and Bull Calves, on Thursday, the 26th day of June next, at his farm, 2½ miles from this city.

It is known to breeders of improved stock in this country, and in Canada, that the proprietor of this herd, during the past twelve years, has, through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a Herd of Cattle, from which superior animals could safely be drawn, for improvement and cross upon other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd it is well known, has recently been disposed of at public sale by his administrators, and dispersed in many hands, and can no longer be resorted to as a whole for improvement. The announcement of that sale created great interest, and all Short-horn breeders in England seemed emulous to secure one or more of the animals to mingle with the blood of their herds; and at the day of sale there was found assembled, the largest audience ever before witnessed on a similar occasion, numbering, it is said, from 4 to 5,000 persons; among them were the most eminent breeders in England, and several from other countries. Some of the animals bringing prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported Bull Duke of Wellington, and the premium Bull Meteor. These are Bates Bulls, and their reputation as stock getters, is too well known to need any comments. I am, however, authorised to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, have these two bulls been bred to Short-horn cows of other herds previously imported into the United States, but what the produce were superior in general qualities to such herds." The most of the stock which is now offered for sale, has been bred from these two bulls; and the proprietor having a young bull more remotely connected with the portion of the herd which he retains, (say about 14 in number,) he can now spare these two valuable Bulls. There will be in the stock offered for sale, six young Bulls, from 8 months to about 2 years old, in addition to the two above named; and the remainder of the stock will be composed of Cows, (most of them possessing extraordinary milking qualities,) Heifers, and Heifer Calves.

It is believed that no Herd of Short-horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals. A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., April 1, 1851—3t.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan Stallion, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Mares will be pastured at a reasonable price—accidents and escapes at the risk of the owners.

D. & D. E. HILL, Agents.
Bridport, Vt., March 1—4t.

Contents of this Number.

Report of Mass. Commissioners on Agricultural School,...... 161
Sketch of Putnam County, N. Y., by H. C. W.,.............. 163
Causes of Agricultural Improvement,...................... 165
The Wheat Crop of New-York,.............. 166
The Architecture of Country Houses,...................... 167
Cutting and Laying Tile Drain, by Prof. J. P. Norton,...... 169
Requisites for Butter Dairies,..................... 171
Skim-Milk and Butter from 16 Cows, by S. L. Wattles—Large yield of Butter—Cure of Wens in Cattle,........... 173
Cure for Scratches in Horses—Cure for Foot Rot in Sheep—Lime for the Curculio—Protecting half-hardy Plants—Utility of the Cultivation of Flowers,........................ 173
Trellis for Grapes—Protection of Grape-vines from Rose Bugs, by A. M. Holt,.. 174
The Curculio—Notices of New Publications,............... 175
Breeding and Management of the Rabbit, by F.,............ 176
Plan of a Dairy Barn, by G. Evans,....................... 178
Best Grass for low Lands—Indian Corn for Fodder,........... 180
Cultivation of Potatoes, by J. H. Alexander—Improved Stock in Nova Scotia, by James Irons,......................... 181
Indian Corn—Injury by Muskrats—Vitality of some varieties of Seeds, ... 182
Notes for the Month—To Correspondents,................... 183
Answers to Inquiries,........ 185
Hussey's Reaping Machine, by Obed Hussey,.............. 186

ILLUSTRATIONS.

Fancy Lop-Eared Rabbits,............................ 176
Cross Section and Floors of Barn,............... 178, 179

Reaping, Mowing and Hemp Cutting.

HUSSEY'S REAPING AND MOWING MACHINE.

IT is now eighteen years since the subscriber first introduced his Reaping Machine into the State of New-York. It then cut two and a half acres in one hour and twenty minutes, and in the language of an old and experienced farmer of that day, "*It cheated the hogs.*" As the farmers of Western New-York appear to be yet unacquainted with the real merits of the Machine, for want of procuring those of Baltimore make, the following letters are respectfully offered for their perusal.

Utica, Lasalle Co., Illinois, Dec. 14, 1850.

Mr. Obed Hussey, Baltimore, Md.—Dear Sir: I received your Reaping and Mowing Machine in time for harvest. I used it for harvesting and for mowing. I am fully satisfied that your Machines are the best yet offered to the farmers of this state. I have mowed about four hundred acres, a great portion of which was wild prairie, very frequently running against both stones and ant heaps, with sufficient force to throw both driver and raker off the Machine, without injury to the Machine. Why your Machine is preferable to all others, is, after you have cut your different kinds of grain, fully as well as can be done by any other Machine, with not over fifteen minutes work, you can take the same machine into your meadow, or on to the prairie, and cut your grass at the rate of ten acres per day, cutting it closer and cleaner, than can be done with the scythe. With proper care, your machine will last fifteen or twenty years with trifling repairs. Very respectfully yours. JAMES CLARKE.

P. S. There is an imperfect Machine, [your patent,] made on Fox River, which has failed in every instance that I have heard from. Your attention to this will confer a favor on the farmers of Illinois, as those imperfect Machines are extensively scattered over the state.

Island Grove, Sangamon Co., Ill., Dec. 25, 1850.

Mr. Obed Hussey, Baltimore, Md.—Dear Sir: Last summer I received two of Hussey's Reaping and Mowing Machines, one from your own shop in Baltimore, and the other manufactured in this state. Unfortunately for me, I retained the one manufactured in this state, and with difficulty succeeded in cutting about two hundred acres of wheat and grass. The one from your shop I let Mr. John Simms have, who cut his wheat, oats and hay, about seventy-five acres, with perfect satisfaction and ease, most of it with two horses, and without being obliged to grind the knives. After Mr. Simms finished his harvest, he let Mr. J. D. Smith, of Island Grove, have it, who cut about three hundred acres of grass with it, the machine giving perfect satisfaction. Very respectfully yours. EDWARD J. ENO.

Springfield, Ill., Dec. 25, 1850.

Mr. Obed Hussey, Baltimore, Md.—Dear Sir: I have used one of your Mowing and Reaping Machines, and consider it the best Machine I ever saw, and never intend to do without one, if it is possible to get one, even if I have to go to Baltimore and remain at the shop till one can be made. I do candidly believe that if I had had one ten years ago, I would now feel like a much younger man—and cheerfully recommend them to all who have grass or grain to cut, as a Machine that will do their work in perfect order, neatness, and with ease to all employed, JOHN SEMMS,

4 miles west of Springfield, Ill.

Carrolton, Green county, Ill., Dec. 27, 1850.

I procured one of Mr. Hussey's Reaping and Mowing Machines from Baltimore last spring. I cut eighty acres of wheat, and ten acres of oats, and fifty acres of timothy with it, to my entire satisfaction. After which I cut sixty acres of Clover seed with it in less than five days. I could not have saved the clover seed without the machine, so I consider I saved the whole cost of the machine in the saving of clover seed alone. SAMUEL THOMAS.

Springfield, Ill., Dec. 25, 1850.

Mr. Obed Hussey, Baltimore, Md.—Dear Sir: During the harvest of August, 1849, with one of your Machines, I cut sixty acres of hemp, using a set of four and a half feet knives and guard, and two teams, of four horses each, changing every two rounds, which cut on an average eight acres per day. This last harvest, the same single machine, with six foot guard and knives, operated by the same force, cut successively two hundred and fifty acres of Hemp, or from ten to twelve acres per day. From this experience, I take pleasure in recommending your cutters above the Hemp cradle and hook, not only as a labor saving, by the expedition with which they cut, but as Hemp saving, from the perfect thoroughness, evenness, and nearness to the ground, with which they do their work, and the regular, and collected form in which they leave the Hemp after being cut.

Yours respectfully, EDWARD S. COX.

Naperville, August 27, 1849.

A few days since, Mr. Hussey came to this place with his Reaper, manufactured at Baltimore, to exhibit to the farmers of Du Page county. His first trial here, was in a piece of Hedgerow Wheat, on new land, and very heavy, but standing up well, and in good order for cutting. It did the work well, and very fast, as grass and weeds were no impediment. We next went into a piece of Black Sea Wheat of fourteen acres, a part of which was nearly flat on the ground, and lying in all directions. I had no idea, that it could be cut by any machine, but to my astonishment, it worked as free and easy as if the grain were standing up; we frequently went round the piece on a trot. We were visited in the course of the day by from fifty to seventy persons, who were all well pleased, and thought we were doing better work than they had ever before seen done by any other machine. Although I had two other machines in my field, could I have kept the Hussey Reaper through my harvest, and abandoned all others, I should have finished several days sooner, and did my work much more to my satisfaction. MORRIS SLEIGHT.

It should be understood, and the subscriber will here state the fact, that the persons whose names are subscribed to the foregoing, are well acquainted with the different reapers used in the western states.

He will state another fact, to wit: The reaper so often spoken of in the west, first appeared in Virginia, in competition with his own. It has now nearly disappeared, and Hussey's Reaping Machine is now rapidly taking their places. All orders must be directed to the subscriber in Baltimore. OBED HUSSEY.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts.

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

Louis Agassiz, LL.D., Professor of Geology and Zoology.

Jeffreys Wyman, M. D., Professor of Comparative Anatomy and Physiology.

Henry L. Eustis, A. M., Professor of Engineering.

Eben Norton Horsford, A. M., Professor of Chemistry.

Instruction is also given by Professor Pierce in Mathematics, Prof. Lovering in Physics, and the Messrs. Bond at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

Bone Manure.

A VERY superior quality of Bone Dust, finely ground, and warranted pure, is now prepared at the Eagle Manufacturing Co., for *Farmers and Gardeners.* It is perfectly dry, packed in tight barrels, and will keep sound in any climate. Apply to

May 1—1t* ALFRED T. KEMP, 62 Beaver-st., New-York.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.

Fresh Garden Seeds, a large assortment of the various kinds Also, Field Seeds.

Lawn and other grasses.

Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c

Guano, Bone Dust, Poudrette, and other fertilizers

Prompt attention given to all orders by letter or otherwise.

March 1—tf.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto. A. B. ALLEN & CO.,

March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

☞ All subscriptions not renewed by payment for the next year, are discontinued at the end of each volume.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, JUNE, 1851. VOL. VIII.—No. 6.

Progress of Agriculture.

Suggestions in Relation to Improvements.--No. VI.

HAVING noticed some of the principal improvements which have been achieved in agriculture, we would now call attention to several subjects to which efforts for further improvements might be profitably directed.

1. The greatest defects in American agriculture at the present time, arise chiefly from *carelessness and waste.* The disregard of order, system and economy, is the bane of our farming. It is the occasion of constant and immense loss in many ways. The most striking example of this, perhaps, is the great negligence in regard to the saving of manures. Notwithstanding the frequency with which this subject has been brought to the attention of farmers, there is scarcely a neighborhood in which many instances of the neglect and loss alluded to, are not seen. On most farms there is nearly a total loss of the urine of the stock, during the time it is kept at the barn; and even the other portion of the excrement is often so much exposed that one-half its value, probably, is lost. It is often washed into the highway, and is seen in the coloring of the water of brooks, which carry off the soluble portions. It would not, probably, be an over estimate of this loss, to say that with many farmers, it is more than equal to the money they pay in taxes.

This loss might be almost wholly prevented, and with but little comparative expense. The first thing towards this would be to use plenty of substances to absorb all the liquids of the stables and yards. Cellars under barns and stables, where the shape of the ground would render it convenient to make them, would be preferable, as receptacles for manure, to any other plan. Where cellars are not made, there might be excavations under the stalls, and being filled with muck, peat-charcoal, or charcoal dust, the urine would be retained in a form convenient for application to the soil. Yards should be so formed by means of embankments, if necessary, that there will be no soak or wash from them. If the roofs of the buildings throw more water on the manure than is sufficient to keep it moist, (not wet) gutters and spouts should be put up to lead the water off.

The practice of having plenty of water in barn-yards, should be more general. In many instances animals sustain much injury from the want of this requisite, and much valuable manure is lost from the same cause.

2. More attention should be given to neatness in farm management, especially in preventing the growth of pernicious plants, and in keeping fences and buildings in repair. There is a general carelessness—in many instances a downright slovenliness, evinced in this respect, which detracts much from the beauty of the country, and at the same time greatly depreciates the value of the land. It is astonishing that this matter should be so little regarded. It is not uncommon to find the door-yards of farm-houses grown up to thistles, burdocks, &c. Sometimes a half acre or more of the best land the farm affords, is thus appropriated as a seed-bed for the propagation of these vile things, and from which they are scattered round the country. Even the spot misnamed "the garden," frequently has a wide border, which, perhaps, amounts to one-half its area, wholly filled and occupied with weeds and bushes.

The injury from these foul plants is much greater than is generally supposed. They increase the expense of cultivation, lessen the yield, and debase the quality of crops. When the soil is full of weeds, they often get the start of crops, and smother them down. In broadcast crops, it is hardly practicable to eradicate weeds, and they run to seed—the seed mingles with the grain and depreciates its value in market. Much of the choicest land in the country has been greatly deteriorated in value, by this careless cultivation and the consequent growth of weeds. In some of the western states, this has been strikingly the case.

It should be a standing rule with farmers to prevent weeds from seeding. This will at least prevent their increase, except with those species which spread by the root. In addition to this, the thorough extermination of all noxious plants should be followed up at every convenient opportunity. These efforts should not be confined to the limits of the farm; but the sides of highways, rail-roads, and all public thoroughfares should be guarded with the same attention. There is a law in this state requiring thistles, which grow on the banks of the canals, on the sides of railroads, &c. to be mown twice a year, but the work is often neglected, or done in so poor a manner, that the object sought is not attained. They should be cut *close to the ground*, while in blossom, but before any seed is formed.

3. We need a more appropriate division of farms, as regards wood-land and cultivated fields, and a better adaptation of the various portions to those purposes most consistent with the nature of the soil, and general appearance of the country. This is a matter which receives but little attention from farmers. An indiscriminate destruction of forest trees has been made in many instances, when the land was first occupied, and a new

growth has not been allowed to take its place. The consequence is, that much land which would have produced trees, and nothing but trees—as the rocky points of hills, barren knolls, the sides of gullies—have been left naked, and the soil, having nothing to hold its particles together, has been washed to sterility. Another injury which has ensued from this destruction of trees, is the greater exposure of many situations to the force of winds. In this climate, subject as it is to extreme heat and cold, trees are important as a means of shelter. A border of trees, even of not more than a rod in width, on the north and west sides of fields, will produce a very favorable effect in breaking off the cold blasts. This is particularly required on hill and mountain pastures, and also in open champaign districts, like the western prairies. There should also be trees in proper places for shade, as animals exposed to the full blaze of our intense summer sun, suffer greatly from its effects.

All steep hill-sides, gorges and gullies, should be left in trees, or planted with them. These spots, left bald and unproductive, give an unpleasant aspect to the landscape, but clothed with trees, they impart a picturesque beauty and interest to the scenery. It would not be difficult to cover these places with trees, by planting the sugar-maple, elm, white-ash, oak, chestnut, and some evergreens, as the cedar, hemlock, and pine, to fill up the plantation. All these would become valuable, either as timber or for fuel. It would be necessary to keep stock away from them, till they have attained such size as not to be injured by browsing.

4. Drainage is a subject which is beginning to receive, as it deserves, much attention. We believe it will prove here, as it has been in Europe, the most important means of improving the soil, which has been adopted within the last fifty years. In the northern portion of our country, there is much land which would be rendered vastly more productive by under-drainage. Judgment and experience are necessary to the proper location and construction of drains; but there is hardly a farm that does not contain some land on which they might be laid down to advantage. The whole subject, however, has within a few years, been so much discussed through the medium of this periodical, that no more need be said of it at present.

5. There are many questions in agriculture, the settlement of which would be productive of great benefit. The best situation for instituting and carrying on proper experiments for the solution of these questions, would be an Experimental Farm, in connection with an Agricultural School. The want of such an institution forms a great barrier to making these experiments. Few individuals can afford the money and time which would be required to carry them on, and at the same time, they naturally consider the answers involved in these questions, as of public, rather than private benefit. It is necessary and proper, therefore, that some way should be devised for these experiments to be made, without an injurious sacrifice of individual interests. In the absence of such an institution as has been mentioned, something might be done through the efforts of agricultural societies, and we think a portion of their funds could not be better expended than in the employment of intelligent and trustworthy persons to conduct experiments, under the supervision of a competent board of directors.

We need experiments in feeding stock with various crops, in order to ascertain their relative value, and which would afford for this purpose, the greatest return per acre, or for the expense of production. In relation to manures, also, a course of systematic trials to show their relative effect and value for different crops, and on different soils, would be highly useful; and it would be exceedingly interesting, as well as practically useful, to compare the results of these experiments, as far as practicable, with the results obtained by chemical analysis. To test the different breeds of horses, cattle, sheep, swine and poultry, in regard to their value for the different purposes to which they are applied, is another important object, in reference to which thorough experiments should be made.

On all these subjects light is much needed. What farmer, for instance, knows what crop will afford him the most profit for the purpose of making beef, mutton, pork, or butter and cheese? Who can tell the relative value of Indian corn and the other grains, or of carrots, turneps, or other roots, for either of these purposes? We are equally as much in the dark in reference to the merits of the different breeds of domestic animals. If, for example, the question is asked—What is the actual difference in the Short-horn, Hereford, Devon, Ayrshire, and common cattle, for the dairy, or for beef, who can answer? It may be said that these breeds are adapted to different locations, which is true, but there are circumstances in which they may meet on an equal footing, and though there is, probably, a difference in their capacities, it is desirable to know what this difference would amount to in pounds of meat, butter and cheese, and dollars and cents.

6. The improvement of domestic animals, by encouraging a class of skillful and systematic breeders, deserves attention. The improvement of animals by the art of breeding, is one of the most important branches of husbandry, and yet it is but very little understood in this country. It necessarily follows that we have made slow progress in this department, and th, although we have had frequent importations of stock from abroad, producing, in many instances, a marked improvement in their immediate progeny, it has, with few exceptions, been necessary to continue the importations, in order to keep up the character of our stock. The truth is, our people have given so little attention to the subject, or have examined it under such false impressions, that it is difficult to find a man who is really capable of selecting a proper animal to breed from, and much more difficult is it to find one who is capable of breeding a herd or flock, without degeneracy, for several generations.

The successful breeding of animals for particular purposes, requires a critical judgment and skill, which can only be obtained by a long course of the closest observation, and a habit of comparing animals, united with a natural taste for the subject, and a determination to understand its principles. Hence the number of real *improvers* in this line has been very small. It is an easy matter to improve a stock, so long as the breeder can resort to other stocks of a quality superior to his own, but when deprived of this advantage, a difficulty presents itself which few have the sagacity and intelligence to overcome. This is not, perhaps, the view generally taken of this matter. Many persons seem to think themselves fully qualified to set up as breeders of fine stock; but a few years experience generally brings disappointment, and convinces them that more knowledge and skill are required in the business, than they had supposed.

The usefulness of improved stock, in increasing the profits of the farmer, is too obvious to require argument here. It is, therefore, a question for consideration,—What are the best means of providing suitable animals of the various species and breeds, for popagation? We are clearly of the opinion that this can be best done by encouraging a class of men as breeders, who shall make this branch of business their constant care and study. This is the mode which has, chiefly, produced the improvement of the live stock of Great Britain, and we are confident as to its expediency here. It is no aid to actual improvement for every man who keeps stock to attempt to breed his own male animals. In fact, it is this attempt which has been one of the main causes of failure. The same error formerly prevailed in Britain, but has been generally corrected and a better course adopted.

In illustration of this subject, we will refer to a paper by Mr. Wilson, in the Transactions of the Highland Agricultural Society, on "Rearing Cattle with a view to Early Maturity." It is remarked:

"It may be well to notice that it is in general highly inexpedient for the beef-grower—the farmer who depends on his regular cast of fat cattle—to attempt breeding his own bull. It is only a few individuals in any district, who have the taste and skill requisite for this difficult department of the business, not to mention the large capital which must necessarily be invested in it. Made wise on this point, the farmer of the Border, purchases from some breeder of established reputation, a good yearling bull, which he uses two or three seasons, and then replaces by another in like manner."

It will not be advisable for one breeder to attempt to rear all kinds of stock. In general, it will be found the best course for each to confine himself to one breed only, of each of the different kinds—as horses, cattle, &c. This will guard against the liability of chance mixtures, which may sometimes occur where several breeds are kept on the same farm. Purchasers would prefer taking their breeding animals from herds or flocks where there was the greatest certainty of the blood being what it was represented to be, and where no circumstances existed which would give rise to any doubts on this point.

It is desirable that there should be some point in each district, where the breed or breeds which are there required, could be obtained in their greatest perfection. A dairy farmer might raise his own cows, or if he did not, would be induced to purchase of such breeders as could supply him with him those best adapted to his purpose. But a farmer whose cows were of the best breed for the dairy, would naturally prefer obtaining his working oxen, should he want any, from a stock which had been selected and bred with reference to a capacity for labor. The same rule would apply to stock for fattening. It would be a great point gained, if herds could be established where animals should be bred especially for these different objects. At present, there are but few herds from which the purchaser can obtain animals of the particular character he wants. Hence the necessity for the establishment of breeding stations, where may be obtained the best horses for travel and for draft, the best cattle for beef, work, and the dairy, the best sheep for mutton and for the production of various kinds of wool, the best swine, &c.

It is not to be expected that the benefits of the system here proposed, will be fully realized until it has been in operation for a considerable length of time. As has been observed, the science of breeding has yet to be learned by most of our farmers, and mistakes, more or less, will be unavoidable; but the observing and intelligent, will profit by the errors of themselves and others, and those who perseveringly apply to the business the greatest amount of *practical skill*, will ultimately meet with proportionate success and reward.

Suggestions for Experiments

TO DETERMINE THE MODE OF

Action and Value of Gypsum as a Manure.

Editors of the Cultivator.—Few substances used as manure have produced more widely different results than gypsum, or have given rise to more numerous and discordant attempts to explain their mode of action.

In some districts, farmers have derived little or no benefit from its use; in others it has proved highly beneficial to a certain class of plants—while in others, again, it seems to have been applied to almost all crops with advantage. If it is a difficult matter to arrive at any satisfactory general conclusion regarding the action of gypsum on plants, from a study of facts recorded by practical men, the inquiry becomes much more perplexing when we consider the explanations which have been advanced by chemists and others, with a view to account for the eccentricity of the action of this manure. Some have supposed that gypsum does not, of itself, afford food to plants, but that its fertilising power depends upon the influence which it is said to exercise on other substances; that it merely improves the physical properties of the soil—that it hastens the decay of organic matter—that it fixes ammonia which would otherwise be dissipated in the air. Others contend, that some one of its constituents is the sole active agent,—water, sulphur and lime, having each their advocates. While by others, gypsum is considered to be an essential constituent of some plants, without which they cannot grow in a healthy condition.

The experiments and observations which have hitherto been made, do not seem to have been sufficiently extensive or accurate, to enable any one to point out with certainty, the means by which gypsum contributes to the growth of different plants, nor to which plants, on which soils, or in what manner, it can be applied with the greatest advantage. Our knowledge on these important points being so unsatisfactory, I have thought it may be well to invite the attention of the readers of the Cultivator to the subject, in order that they may see that the inquiry is an interesting one, and likely to afford useful results, and that it stands much in need of, and well deserves a more extended chemical and practical investigation.

The least plausible of the hypothesis mentioned, seem to be those which ascribe the action of gypsum to its supposed power of decomposing organic matter, altering the physical constitution of the soil, or of affording water to plants.

Sir Humphry Davy and others, have proved that the decay of animal substances was not hastened by being mixed with gypsum; if it had possessed this property, and by this alone it was useful to plants, then it should prove most efficient on soils rich in organic matter, and add to the luxuriance of *all* plants.

The quantity usually applied, from two cwts. to four cwts. per acre, is obviously too small to exercise much influence on the physical constitution of a soil; besides its beneficial effects have been observed on soils varying in texture from sand to clay.

Vegetable mould, clay, and other substances in the soil, are known to have a much greater capacity for absorbing moisture from the air, than gypsum. In two cwts. unburned, about 47 lbs only of water, are added to the soil, and supposing roots had the power of abstracting the water of combination, and that this could be continually replaced, then if the supply of moisture afforded by gypsum was the chief cause of its influence, its effects should be most observable on the driest soils, and it should be of great benefit to all crops on most soils in dry seasons; but the facts at present known do not warrant any such conclusion. A crop has been doubled by the use of gypsum, on the western coast of Scotland, where much rain falls, as well as on the sands of Holkham, in Norfolk, where the climate is comparatively dry.

Liebig has stated that the influence of gypsum on the growth of grasses, depends on its fixing in the soil the ammonia of the atmosphere. There can be no question that gypsum has the power of fixing ammonia, or that the sulphate of ammonia produced by the mutual decomposition of gypsum and carbonate of ammonia, is readily soluble in water, and a valuable food for plants. Before, however, it can be admitted that this is the sole, or even the chief cause of its influence, it should be proved to have the most decided effect on soils which contain least of other matters capable of combining with, or condensing ammonia, and that on these soils, a dressing of charcoal, or chloride of calcium, or substances containing ammonia, are equally efficient.

Sir Robert Kane considered that the peculiar action of gypsum consists in its supplying lime for the rapid growth of clover, and other leguminous plants, which its moderate solubility in water enabled it to effect better than any other compound of that earth. It is probable that gypsum may, in some cases, act chiefly by means of its lime, when sulphuric acid and an abundance of other matters required for the growth of plants, excepting lime, are present in the soil. But it seems somewhat paradoxical, that the rapidity of the growth of a plant should be in proportion to the slowness of the supply of one of its chief constituents. If lime, in the state in which it is usually applied, were so easily soluble as to be washed out of the land, or beyond the reach of the roots, before the plants had completed their growth, then a compound affording a more lasting, though limited supply of lime, might in the end prove more useful; but a dressing of ordinary lime is seen not only to carry through one crop, but to exercise an influence on crops for years after; and if the action of gypsum depended solely upon its lime, then it should follow that it would be an useless application to calcareous soils, where this material already abounds. The reverse of this, however, seems to be the case, for some of the most decided instances of the beneficial action of gypsum, have been observed in chalk. In "British Husbandry," it is said "experience has proved gypsum to be beneficial when laid upon limestone soils, or upon land which had been dressed with chalk or lime. It is used extensively for clover, sainfoin, &c., on the chalk formations in Kent, Hampshire and Berkshire. At Tanstall, near Sittingbourne, in Kent, situated, I believe, upon the chalk, a portion of clover was dressed with gypsum, at the rate of four cwts. per acre, and the aggregate produce was three times as great as the other portion of the field, to which no gypsum was applied. It can hardly be conceded, then, that the lime supplied by gypsum is the sole or main cause of its fertilizing power.

Sir Humphry Davy concluded that gypsum is an essential constituent of some plants, as it was always most beneficial to those which afforded it on analysis, and he considered that it might naturally exist in some soils in quantities sufficient for the wants of plants; consequently a special application of gypsum to these soils, would be attended with little or no benefit. Other writers, as Russel, Johnson, &c., coincide in the opinion of Sir Humphry Davy that the benefit to be derived from an application of gypsum, will not only depend upon the kind of plant, but on the abundance or scarcity of gypsum or other sulphates in the soil. That sulphur contributes to the growth of plants, seems to be proved by the fact that sulphuric acid alone has in many instances proved beneficial. Vegetation has been observed to be luxuriant in the neighborhood of sulphureous springs. Natural or artificial waters which have a sulphureous taste, are said to give birth to a peculiarly luxuriant vegetation when they are employed in the irrigation of meadows. (Johnston.) In France sulphuric acid has proved to be a good manure when poured upon land after the removal of the crop. (Liebig.) Sulphur has been applied with advantage in Germany, as a top-dressing for clover and other crops, to which gypsum, in that country, is usually applied. (Cuthbert Johnson.) In experiments made on two fields by a Scotch farmer, sulphuric acid afforded a greater increase of hay than gypsum and an excellent crop of turneps has been raised by means of sulphuric acid in Fifeshire.

Again, the experience of farmers generally favors the conclusion that gypsum acts most energetically on sain foin, clover, lucerne, and turneps, all of which contain a considerable proportion of sulphate of lime. Thus at Holkham an application of 4 bushels per acre on sainfoin layers, is said to have doubled the crop. On a clayey soil in Hampshire, 2½ cwts. per acre were strewn on two year old sainfoin; the extra produce of hay at the first cutting was one ton per acre; in October the gypsumed part afforded 1¼ ton of hay, yet there was scarcely any on the rest of the land. In the next year the former was twice mown, while in the latter, it is said there was nothing to mow. On clover the influence of gypsum seems in some instances to be very decided. In an experiment made at Highstead, the simple soil produced one ton of clover hay and 20 lbs. of seed per acre; a portion of the same soil to which gypsum, at the rate of five bushels per acre had been applied, yielded a crop equivalent to three tons of hay and 105 lbs. of seed per acre. In British Husbandry, gypsum is said to have increased crops of clover and lucerne, on some soils in Kent, at least three fold. In Ayrshire, part of a crop of turneps was nearly doubled by the use of gypsum. In the same neighborhood, no perceptible effect was produced on turneps by 2 cwts. of gypsum; but the entire crop was excellent—a circumstance which should not be lost sight of when experimenting with special manures. There is a limit to the growth of plants; if a soil is already so rich in vegetable food, as to be able to produce a great crop, a dressing of any manure to a soil in such a state, would be useless.

There are also many observations on record which seem to show that the growth of plants in some instances was checked owing to the want of gypsum in the soil, and that it acts much more powerfully on some plants than on others. Thus, if land is clover-sick; if the young plants spring up and die away as summer advances, this is considered by many to be an indication of the absence of gypsum. A crop of sainfoin which began to decline in the 4th year, became as productive as before by an application of gypsum. (Brit. Hus.) In the 5th year after sowing lucerne, the natural grasses appeared to be gaining ground, when a dressing of gypsum produced such a smothering crop that the grass could no longer make head, till after the third cutting. In another instance, an old grass field became gradually less and less productive in spite of all applications, when a quantity of peat ashes containing about 2 cwts. of gypsum, was afterwards applied, and a similar result followed,—the grass not only grew with greatly increased vigor, but a quantity of white clover made its appearance in the part dressed, in so marked a manner as to attract the notice of the farmer. In both these cases the gypsum had evidently a much more powerful effect on the clover and lucerne than on the grass.

So far, then, as my gleaning of facts and opinions extends, it seems to me that all we can be said to know with any degree of certainty regarding the action of gypsum on plants is, that it does not depend upon the moisture it contains, or is capable of attracting from the atmosphere; nor on its supposed power of decomposing organic matter. We may also infer that it is most beneficial to clover and other leguminous plants, and that it probably acts more powerfully on them in consequence of the great proportion of sulphur they contain. If this be so, it is easy to understand why in some soils it may add to the growth of most plants. If a soil contains all other substances required for the perfect nourishment of plants excepting sulphur, then a dressing of gypsum would have a visible effect on wheat, oats, &c., which require a comparatively small supply; and it should follow that if the quantity naturally existing in a soil were so small as not to suffice for the wants of these plants, that clover, lucerne or sainfoin, which contain much sulphur, could not, previously to the application of gypsum, grow in a healthy condition. A difficulty, however, arises here; if this were the case, if the exhaustion of the sulphur of a soil, were the only reason why gypsum is so beneficial on some soils, why clover and turneps cannot be repeated at short intervals with advantage; why do not these soils produce a similar effect on the potato and cabbage, for the analyses of the ashes of these plants indicate that they require a very considerable quantity of sulphuric acid? yet there are few or no districts where the potato, at least, is not frequently repeated on the same land, but we do not hear of lands being tired of potatoes or potato-sick.

The points on which more precise information seem to be required are the following:

1. Does analyses show a deficiency of sulphate of lime in soils where an application of gypsum is efficient, and an abundance in those soils in which it is inert?

2. Is gypsum on all soils beneficial to plants in proportion to the smallness of the quantity of sulphate of lime they contain?

3. Does gypsum act by different means in different soils and on different plants?

If it should be ultimately proved that the action of gypsum is chiefly due to the sulphuric acid which it contains, then a question will arise whether other sulphates or sulphuric acid, can be profitably substituted for gypsum on some soils or for some plants, as dilute sulphuric acid on chalk and limestone soils, or sulphate of potash for wheat, on land with sufficient lime. It would also be desirable to ascertain what are the chief causes of the difference in the quantity of sulphuric acid in soils—whether it is to be traced to a difference in the composition of different rocks from which soils have been derived, and consequently whether a knowledge of the geology of a district will enable one, without the aid of analysis or experiment, to pronounce whether an application of gypsum will be profitable or otherwise. Or, may the difference depend partly upon the mode of cropping pursued in different districts—to the presence or otherwise of sulphureous springs—or is gypsum conveyed to the land in unequal quantities in different localities in the ordinary dressings of lime?

The following experiments seem likely to throw some light on the main questions. I propose that they should be tried in at least three districts. 1. Where gypsum is known to be of the greatest benefit. 2. Where it acts on certain plants only, as clover. 3. Where it is of little or no use to any plants. A field should be selected in each district, well drained, nearly level, of uniform quality, free from the shade of trees, and which had been manured and cropped throughout alike, for three or four preceding years. A complete analysis must be made of the soil of each field, previously to the commencement of the experiments. The same variety of each plant should be grown in the three districts; it is desirable, indeed, that all should be supplied from the same sample. The culture of each plant must be alike throughout—all kept free from weeds—the land accurately measured and the entire produce of each patch carefully weighed. Notes should also be taken daily, of the state of the weather during the trial of these experiments—and, as will be seen hereafter, it is especially desirable that the time the gypsum remains on the leaves should be carefully observed. I propose that a patch of most of our arable plants should be grown and top-dressed alike—say in the first week of June, with the following substances:

	Lime.	Gypsum.	Sulphate of Soda.	Carbonate of Soda.	Nothing.	Carbonate of Ammonia.	Sulphate of Ammonia.	Sulphuric Acid.	Nothing.	Gypsum.	Charcoal.
1. Clover.											
2. Wheat.											
3. Oats.											
4. Beans.											
5. Peas.											
6. Carrots.											
7. Potatoes.											
8. Mangel Wurzel.											
9. Corn.											
10. Ruta-baga.											
11. Turneps.											

The burned lime used, should be slaked by exposure to the air; when reduced to powder it will be partly in the state of hydrate and partly of carbonate of lime; as carbonic acid sufficient for the wants of plants exists in the soil and air, I propose that carbonates of lime, soda, and ammonia, should be tried with the sulphates, with a view to determine how much of the extra growth of the plants is due to the action of these substances, and how much to the sulphuric acid. By a comparison of the produce of the different patches of any one plant, we may be enabled to conclude whether gypsum acts chiefly by means of its lime, its sulphuric acid, or its power of fixing ammonia.

A comparison of the produce of all the plants, will indicate whether gypsum acts differently on different plants growing under the same circumstances, and whether it is probable that other substances may be used with greater profit than gypsum, in certain localities. The advice of a professional chemist would be required as to the quantities of these substances to be used, and how they should be applied; it will be necessary, I apprehend, to consider what quantity of each would be required to afford an equal quantity of sulphuric acid; what is the degree of solubility, and the tendency to form fresh compounds when in contact with the soil.

A consideration of this subject, suggests another interesting inquiry, viz: how can gypsum be most advantageously applied to plants? One might have supposed that it would have been of little moment whether it was worked into the soil previous to sowing, or strown on the plants early in the spring, or if there was any difference, it would be in favor of the former practice, as by that means the gypsum would be more thoroughly mixed with the soil, and be useful to the plants from the commencement of their growth. The experience of farmers, however, points to a different result, and seems to indicate a peculiarity of action not yet understood, and which, therefore, requires to be cleared up by experiment.

Many have supposes that gypsum exercises the greatest influence when strown upon the plants in spring; some, indeed, consider that it increases the growth of plants in proportion to the length of time it remains on the leaves, and that if rain falls immediately after it is applied, it produces little or no effect. Cuthbert Johnson says—" he has noticed that the weather, at the time of spreading gypsum, has a very material influence on the result of the experiment. Its effects are never soon apparent when sown in dry weather, but if the season is damp, so that the powder adheres to the leaves and stalks, the effect is immediate." This, he says, has been observed in England and the United States. It is also said to be a well known fact with the sanfoin growers of Berkshire, the clover cultivators of Surry and Kent, and to the growers of lucerne in Essex and Middlesex.

In other instances, I find it has proved of great use to wheat, when strown on the plants in spring, and it is said to produce immense crops of peas, if applied when the plants are "looking up." At Wellwood, in Ayrshire, gypsum and salt were strown on a mixed crop of oats, beans, and peas, which, by some means had been much injured. The effect is described as like magic; the plants assumed a deeper color, and grew wonderfully. On the same farm, a similar dressing was applied to a portion of a crop of beans when coming into flower. The beans at the time were very weak, but they ultimately became as good a crop as other portions to which manure had been earlier applied.

Again, it is said in British Husbandry, that gypsum never appears to produce better effects than when it has been laid upon red clover already so far grown as that the leaves nearly cover the soil, "for there seems no doubt that it acts with the greatest force when it adheres to them, and that the longer it remains upon them the better."

These observations derive great support from a comparative experiment made by Professor Korte, who found that gypsum applied to clover, at different periods, produced the following results:

Undressed, 100 lbs.
Top-dressed the 30th of March, 132 lbs.
" " 13th of April, 140 lbs.
" " 27th of April, 156 lbs.

Thus the benefit derived seems to have been in proportion to the extent of the foliage on which the powder could be spread. The plants most advanced in growth when the gypsum was applied, having, with the same materials, accomplished the most work in the least time. It is, doubtless, of importance to ascertain by further comparative experiments, whether gypsum is invariably most efficient when it remains some time on the leaves; and if so, what is the cause of this special influence. Does the gypsum act immediately on the plant, while in contact with the leaves, or does it acquire some property by being exposed to the air, which afterwards renders it more efficient when mixed with the soil? Gypsum, when spread on the floors of stables, is known to purify the air by abstracting ammonia, and it is not improbable that gypsum may, in like manner, attract ammonia from the atmosphere, when exposed thinly on the leaves of plants. It would in that case prove a more efficient manure. If a small quantity only of ammonia exists in a soil, and if there were present, vegetable mould and other matters to prevent its escape, then gypsum would probably act by means of its sulphuric acid and lime only; but if before entering the soil, the gypsum had abstracted a certain quantity of ammonia from the air, the soil would obviously become richer in this essential food of plants. But if this is not the reason why gypsum is more efficient when strown on the leaves of plants, is it probable that leaves have the power of disengaging and absorbing the sulphuric acid and water of the powdered gypsum? As sulphuric acid is an essential constituent of those plants to which gypsum is generally most useful, may not the presence of sulphuric acid in the plant, in a more concentrated form, and greater abundance than it would be if obtained from the soil only, cause a more energetic absorption and assimilation of alkaline bases from the soil, hence a more rapid building up or growth of the plant?

In "Lectures on Agricultural Chemistry," it is said Peschier has observed that gypsum laid on the leaves is gradually converted into carbonate of lime. If this invariably happens, then the change is effected by one of the two causes mentioned; either the sulphuric acid unites with ammonia, or it is absorbed. If it does unite with ammonia, then what becomes of the sulphate of ammonia formed? Is it gradually dissolved by slight rains or heavy dews, and so washed off the leaves. or is it in this state absorbed by them?

Experiments like these, I fear will be considered by many uncalled for and likely to be attended with too much expense. It is high time that a different mode of experimenting should be entered upon than has hitherto prevailed; it must be done, sooner or later, before any rapid or sure advance can be made in farming—and I cannot but think that there is wealth and energy enough in this country to prosecute such experiments now. If $600 can be given by an individual to listen, for a brief hour in most delightful raptures, no doubt, to the warbling of the "Sweedish Nightingale," surely it would be no difficult matter for the farmers of a state to raise at least an equal sum, to conduct an inquiry which would tend to benefit them individually, add to the resources of the state, and, I may say, confer honor on the country. It has been said of the distinguished Von Thaer, a man who seems to have combined within himself a greater amount of practice with science than almost any other writer on agricultural matters, that "the first care of all societies formed for the improvement of Agriculture, should be to prepare the forms of experiment, and to distribute the execution of them among their members." One state is distinguished for the growth of wheat, another for its dairy produce, another for raising cattle, and so on—let each State Agricultural Society consider what question it would be most for its interest to thoroughly investigate; then let the chemist, the vegetable physiologist, and the practical farmer, unite together in order to determine how the experiments should be conducted and what precautions must be observed in order to avoid the influence of disturbing causes, or of receiving evasive or erroneous answers to the questions it is desirable to solve. There is no nation on the face of the earth which should enter into such investigation with greater zeal than the United States. In Europe, and especially in Britain, great improvements have been made in agriculture of late years—and how have these improvements been effected? Chiefly by the skill and enterprise of the tenant farmer. On the strength of a lease, he has been ready to adopt suggestions, showing good ground for concluding that a profitable return would be obtained for money expended. He has laid out his capital freely, and although he may during the time of his occupation win back his capital with a liberal interest, yet many of the improvements he makes, are of a permanent character; consequently when his lease expires he has to pay a considerably higher rent for improvements which he himself has effected, or give way to another who will. Now in the United States, where the majority of farmers are owners of the land they cultivate, the case is very different; they have the prospect of reaping the full benefit of any improvements they may make. JOHN TOWNLEY. *Port Hope, Columbia county, Wisconsin*

Improvement in the Manufacture of Flax.

In a late number, we gave some remarks in regard to the discoveries of CLAUSSEN and others in the preparation and manufacture of flax. There appears to be no doubt, from what we have subsequently learned in regard to the new process, that it is of considerable value, and that it is likely to be extensively adopted. At the meeting of the Council of the Royal Agricultural Society for Feb. 12th, last, M. CLAUSSEN laid before the Council specimens of flax prepared on his plan, according to the following list:

1. Samples of flax in the straw, pulled and rippled.
2. Sample of flax-straw, prepared according to the new process, adapted for linen manufactures.
3. Sample of long fibre scutched from part of No. 2.
4. Samples of flax-fibre, adapted for spinning on cotton machinery.
5. Sample of yarn, spun on cotton machinery, some from all the above flax-fibre, others mixed in various proportions with the American cotton; these mixtures being termed by the inventor flax-cotton.
6. Samples of flax-fibre prepared for mixing with wool.
7. Samples of yarn produced on ordinary woollen machinery, composed of wool and flax in various proportions, termed by the inventor flax-wool.
8. Samples of flannel woven from the above.
9. Samples of fine cloth woven from yarn composed of flax and fine wool in various proportions.
10. Flax-fibre prepared for mixing with silk, and dyed of various colors.
11. Flax-fibre mixed with spun silk, and termed by the inventor flax-silk.
12. A sample of yarn produced from the above.
13. Samples of flax-cotton yarn dyed of various colors.
14. Samples of cloth woven from flax-cotton yarn and wool, dyed.

The following are the advantages detailed by the Chevalier Claussen and his friends, as possessed by the new process over the old methods:

1. That by the Chevalier Claussen's process the preparation of long fibre for scutching is effected in less than one day, and he always produces a fibre uniforn in strength and entirely free from color, much facilitating the after process of bleaching either in yarns or in cloth.
2. That he can also bleach it in the straw at very little additional expense of time or money.
3. That the former tedious and uncertain modes of steeping are superseded by one perfectly certain, with ordinary care.
4. That in consequence of a more complete severance of the fibres from each other, and also from the bark and boon, the process of scutching is effected with half the labor usually employed.

[These advantages referred to that portion of the invention that includes the preparation of flax for spinning upon the ordinary flax machinery, and suited to existing markets.]

5. That by the new process, flax is rendered capable of being spun, either in whole or in part, on any existing spinning machinery.
6. That the fibre, to be mixed with cotton, or spun alone on cotton machinery, is so completely assimilated in its character to that of cotton, that it is capable of receiving the same rich opaque color that characterises all dyed cotton; and, consequently, any cloth made from flax-cotton yarn can be readily printed, dyed. or bleached by the ordinary cotton processes.

7. That flax-fibre can be always produced with profit to the British grower at a less price than cotton can be imported into this country with profit to the foreign producer.

8. That as a consequence of this advantage, the manufactures of this country will be less dependent on the fluctuations of the cotton crop for a supply of the raw material, and a more regular employment will be giving to the manufacturing population, and the present amount of local rates be greatly diminished thereby.

9. That the grower will derive great benefit from a supply of the wide demand thus opened to him.

10. That with respect to the advantages of being able to spin flax in combination with wool on the existing woollen machinery, the first is, that the flax prepared by M. Claussen is capable of being scribbled, spun, woven, and milled, in all respects as if it were entirely wool; having an advantage in this respect over cotton, which has not the slightest milling properties; on the contrary the flax-fibre is capable of being even made into common felt hats with or without admixture of wool. To such an extent has the milling properties of flax been proved, that the sample of cloth exhibited had been woven to 54 inches wide, and milled up to 28 inches wide.

11. That the flax-fibre will not, under any circumstances, when prepared for spinning with wool, cost more than from 6d. to 8d. per pound, while the wool with which it may be mixed will cost from 2s. to 4s. per lb.; consequently reducing the price of cloth produced from this mixture 25 or 30 per cent. below the present prices of cloth made wholly from wool, and being of equal, if not greater durability.

12. That short-wool refuse, which cannot by itself be spun into a thread, may, by being mixed with this thread, be readily spun, and manufactured into serviceable cloths.

13. That there is a probability of a further demand being opened for this fibre in the flannel and woolen trade.

14. That by this process, flax may be also so prepared as to be spun in any certain proportions with silk, upon the existing silk machinery; that when so spun, it is capable of receiving considerable brilliancy of tint. That the fibre may be prepared for thus spinning, at an uniform price of from 6d. to 8d. per pound. That as it may be spun in any proportions with silk, it is evident that the price of the yarns must be reduced according to the relative proportions of the material employed, thus extending the markets, and giving increased employment to the operatives.

15. That by M. Claussen's process of bleaching, any useless flax can be converted into a first rate article for the paper maker, at a less price than the paper maker is now paying for white rags, and suitable for the manufacture of first class papers.

Sir James Graham inquired, whether the farmer, in separating the seed from the straw, would be liable to injure the fibre? To which

M. Claussen replied, that no such injury to the fibre would arise from any of the present modes of separating the seed from the straw, so long as the separation was made longitudinally; that an ordinary thrashing-machine might be so employed as not to injure the fibre; in fact, that the only injury that could arise would ensue from breaking the fibre across, or steeping it on the old system.

Mr. Shelley remarked, that there was no difficulty in farmers growing flax, the only difficulty was to get a market for it. If M. Claussen could make it marketable for them, he would find no want of growers.

M. Claussen replied, that it was both simple and easy to prepare the flax for the spindle, and he would undertake to furnish persons properly instructed who would direct the farmers how to proceed. There was one house at Bradford, that of Messrs. Quitzow, Schlesinger, & Co., flax-spinners, dyers, and merchants, whose only fear was that enough flax wouldnot be grown for their use; and they were, he believed, ready to give £4 per ton for flax of fair quality.

Professor Way observed that the present system of preparing flax only applied to existing markets. M. Claussen's method, as he understood it, had the merit of opening new and extensive markets for this article; and there was one important point in the new plan—that there would in future be no distinction of flax into fine or coarse qualities. The farmer, too, under the new system, would not be obliged to pull his flax, as under the system hitherto in use, before it was ripe, in order to secure a higher price for his fibre; but, on the contrary, it will not be necessary to pull it until the seed and stalk were fully ripe. The farmer would thus obtain a larger proportion of fibre in proportion to the bulk, and a heavier crop of seed. He understood the quality of fibre in the new process not to be so essentially of importance as under the former plan, and that farmers may break the flax to reduce its bulk. The new material would be intermediate between linen and cotton; less valuable than the one, but more valuable than the other.

Drainage and Irrigation.

Eds. Cultivator—Many valuable articles on the importance of drainage to the agricultural interest of almost every section of the country, have been given in your valuable paper for years past; but it is a subject of such magnitude, lying, as it does, at the foundation of all correct tillage, that the advantages arising from it should be repeated and reiterated, till farmers will hear, believe, understand and act. Although a good deal of that work has been *successfully* done, rendering land which was unfit for the profitable cultivation of wheat, (owing to the heaving of the wet soil by frost) dry and capable of raising crops of the best quality, where formerly a thin crop of mildewed stalks, and shrivelled grain was all that the best tillage could produce, yet a tithe of what is requisite is not done.

Travel where you will in western Pennsylvania, and you cannot find a farm that does not need further improvement by underdrainage, except some favored ones, where *nature* has done the work. And yet, in most places, we might render our arable land dry and productive, at less cost than the farmers of New-York, who use principally draining tiles; while we can very frequently be ridding the surface of the encumbrance of small stones, and with them constructing very efficient and permanent drains, and at the same time be putting the stones forever out of the way. It may seem paradoxical to recommend the drying and wetting of land at the same time.

It is nevertheless true, that irrigation, on soils and situations properly adapted to it, is scarcely less important than drainage. In the December number of the Cultivator, there is an excellent article on the value of that method of improving the soil, and its immediate product. An experience of forty summers enables me fully to add my testimony to that of Mr. Turner, that one acre of judiciously watered meadow land will, from its increased products, fully sustain and keep in a state of progressive improvement, a like quantity of upland. If the soil in both cases, was pretty good to start with, it will do much more. It has been aptly stated that *manure* is the farmer's *gold dust*. Here, then, is a mine entirely too much neglected. I cannot, however, agree with Mr. Turner, that summer watering exhausts the land by pushing it beyond its natural strength. In the long experience alluded to, there has, certainly, been no such results, and we have practiced summer watering for that length of time. On the contrary, the after-growth has been uniformly most luxuriant. The only danger apprehended, is the over-growth of the grass intended for mowing, causing it to fall prematurely, thus injuring the quality of the hay.

It is said that the Chinese laugh at the idea of the "*earth* growing tired like an animal." But although she may not want rest, she does want food while she is producing a crop. And the water of brooks, passing along much travelled highways, and beneath farm buildings, does furnish in large quantities, the ncessary food for grass. I believe the soil is more improved by summer than by winter watering, because, owing to the heavy rains of that season, the streams are enabled to carry and deposit among the grass roots, a greater amount of sediment than the winter freshets; and the roots being active and hungry, receive and appropriate more of the soluble matter suited to their use, than could be done in their torpid winter state. Thus they frequently get a hearty meal without calling on mother earth. Still, I am more in favor of winter, than of long continued summer irrigation. There is less danger in the former than the latter season. The ground may be submerged for a considerable time in winter, without injury, while in warm weather, such treatment, by excluding the atmosphere, would be ruinous. For the successful application of water at that season, the ground must have sufficient declivity to permit the water to pass off freely. Flats, with tenacious subsoils, will always receive injury. Timothy will bear more water, and longer continued on it, than any *good* grass that we cultivate. W. P. *Unity, Jan.* 6, 1851.

◆

Cutting and Curing Hay.

Eds. Cultivator—I take it for granted, that one of the principal objects of your journal is to benefit the farmer. Through this medium they can exchange views on the various subjects connected with their own immedeate interest, and can avail themselves of the improvements, experiments, and success of others, in the diversified operations of the farm. Theorists may, and often have, suggested many valuable hints and improvements, but practical knowledge is the current coin, and is an indispensible requisite in the successful management of the farm.

Experimental and systematic detail on any one branch of farm management, may benefit many, by enabling them to appropriate the experience of others, and turn it to their own account; and while I would urge upon others the utility of giving their various systems of management, I feel willing, in my own humble way, to contribute my mite to the general fund. In the following remarks, I propose to make a few suggestions in regard to cutting and putting up hay.

I cut and put up about one hundred tons of hay annually. The first point here, and in every other neighborhood where laborers are scarce, is to secure a good selection of hands, and notwithstanding this point may be attained, yet from the commencement to the close, much, very much, depends on the employer himself for success. If he is kind, courteous, sympathetic, and happy himself, making all about him to feel contented and at home, thus inducing a general interest in his efforts, he will go on well; but if he fails in these matters, small as they may appear, he had better abandon his business at once.

The haying season is a severe tax on the physical powers of the laborer. The employer should be careful not to place any obstacles in the way. A good and willing horse should never feel the lash; many a good team has been ruined by bad driving. If there be a sufficiency of hands to carry on the business, three or four should be put to the scythe. If they are honest men, they will make a fair day's work, whether they are paid by the day or acre; that is, if fifty cents be a fair price for mowing one acre, and seventy-five cents be the price of a day's labor, an honest man will feel himself bound to mow one and a half acres. It will, however, generally be found better for both parties to have the grass cut by the acre. Mowing by the day, especially when the weather is very warm, the scythes are apt to become so dull, that many a poor fellow has been nearly exhausted by his incessant whetting; but when mowing by the acre, the scythe almost invariably retains a sharper edge, and he who swings it shows no more sympathy or pity for the falling grass, or the grasshoppers perched upon it, than an energetic farmer, with a deadly weapon, would do in the midst of a patch of Canada thistles.

My clover is carefully scattered immediately after the scythe, and when sufficiently wilted is put up into neat cocks, and permitted to stand one, two, or three days, according to the weather. Previous to storing, it is opened to the sun a short time and then finally disposed of. I consider clover hay cured in the cock, worth almost double that cured in the sun. My timothy hay is cured in the sun, and is never cocked up unless it is not sufficiently dry, and rain is approaching. The principal part of my hay, is fed to sheep in the meadows during winter. Where barns are not erected for the reception of the hay, it is thrown up into stacks or ricks, in the meadow. It is the business of one man to manage the horse-rake; another follows with a fork, commencing at the end of the windrow, and rolls the hay before him as far as he can conveniently do so. He then advances along the windrow, and when far enough to equal his first deposit, he faces about and rolls before him to the former deposit; he then places the fork under the hay and the last roll is flapped on top. In this motion a slight pressure is given to the hay with the hands and breast. It is true these are rough bunches, but they answer for the purpose of hauling, which is all that is intended. A boy follows with the hand rake which completes the operation. Then comes the hauling, and where the distance does not exceed twenty or thirty rods, hauling with the rope is far the most expeditious method. I do not deem it necessary to advert to the manner of pitching and hauling in this way, as its superiority has no doubt rendered its adoption almost universal. Two ropes, two horses, and two boys, can deliver the hay at the rick faster than the most powerful pitcher is able to dispose of it. And here permit me to remark that the person selected as the stacker, should be one of the most energetic and industrious of men. A man whose thoughts are wholly engrossed in contemplating the dollar, seventy-five cents, or whatever may be his day's wages, and moreover feels religiously conscientious that the price of harvest wages is too low; or, if he is one who is only willing to move as circumstances make locomotion imperative—should never be placed on your stack. Better borrow money at one hundred per cent interest, and pay double wages to one who will do justice to the business on hand, than to have the services of the other for nothing.

But let it always be borne in mind, that the duties incumbent on the employer and laborer, are reciprocal. If the employer boards his hands, he should give good, sound provision, at proper times, and plenty of it. He should promise full and fair wages to his laborers, and should perform that promise with the same scrupulous regard, as if it were his oath. In short, he should require nothing of his laborers but that which is clearly right, and as far as it is in his power, should guard against a spirit of jealousy between him and them. It is most truly a sad state of affairs when the employer is found using every stratagem to invite or extort to greater effort, at the same time the laborers are counteracting his grand object in this particular. Such a state of affairs proves either the entire incompetency of the employer for his position, or that he has been so unfortunate as to have employed an Arnold or a Judas, and if the latter, the sooner he informs him that his services are no longer required the better. One man whose feelings are adverse to the interest of the employer, is sometimes capable of spreading the leaven of disaffection, and either causing a general explosion, or marring the pleasure, comfort, happiness and harmony of all concerned. G. *Moore's Salt Works, Jefferson county, O., Feb.* 1851.

The Potato Disease.

I. *The Gardener's Chronicle, on Potato Disease.*—I noticed in the September number of the Horticulturist, an extract from the Gardener's Chronicle, a periodical edited, I think, by Prof. LINDLEY. This article, while it notices the effect of the damp, hot weather of the last summer upon the potato crop, seems to charge the disease to a *fungus* formed upon the plant. It is said to exhibit two forms, and is supposed to give origin to two different diseases. My means of nice inspection, and my habits of research, do not qualify me to investigate the disease in this mode. I would not deny the utility of such investigations, nor doubt that, in some cases of vegetable disease, health may be restored by modes of treatment directed to the repulsion of such fungus, as in the case of sulphuring grapes, and the application of salt and strong wood ashes to gooseberries. Yet it seems to me that every one, whose essays in the closet are the fruit of his own daily observations in the field, must be convinced that both the fungus and the insect in diseased potatoes are usually not the cause but the consequence of disease. He will equally be convinced that the disease is usually traceable to the general unpropitiousness of the climate, or the unpropitiousness of a single season, aided often by the too stimulating course of culture adopted, and the neglect to renew the seed occasionally from the pootato ball. The fungus then becomes the mere eruption of disease, previously existing in the elaborating system of the plant.

Have not inquiries on this subject usually begun at the wrong point, i. e., at the *mode* of morbid development, rather than at the probable *causes*? Had the inquiry been, what are the constitutional requirements of the potato in its normal condition as a mountain tropical plant; what would be the probable influence of cultivating it in a climate presenting the wide extremes which ours does; and what the influence of a course of culture so stimulating as that which is usually adopted, joined with the negligence usually seen in the modes of obtaining seed,—I say had inquiries taken these directions, at the first development of this disease, we should not now be involved in so utter uncertainty about its cause, but might, I think, have been far advanced on the highway of improvement.

My usual experience has been that the first visible indications of disease are a peculiar paleness of the whole plant, that is, a loss of its usually deep verdure, and the exhibition of a light, almost yellowish green, followed quickly by a falling of the flowers whether open or not, a tinging of the extremities of its upper leaves with steel blue, and of its lower leaves with spots like stains of iron rust. Both these marks on the leaves are speedily followed by the death of the leaf. At the same time, and often preceding these appearances on the leaves, the top crest of the plant wilts.

At other times warm rains are intermitted with hot sunshine, which seems to occasion a white mildew over the whole plant. This mildew however does not ordinarily either attend or succeed the preceding symptoms. Indeed, I have never observed it until during the last summer and autumn. At intervals, longer or shorter, after the preceding indications, disease is seen upon the tubers. The thing to be particularly noticed however is, that the preceding indications are always and only preceded by sudden and severe changes of weather, especially by that which is wet, cold and windy, coming in subsequent to that which had been hot and dry; nor is the disease of the tubers ever known to occur except when preceded either by these sudden changes, or by the hot and wet weather.

II. *The Remedy of Dr. Klotch.*—This proposed remedy consists in cutting off the extremities of the plant occasionally during its period of growth. The value, if any, of this proposed remedy lies in the fact that it checks the development of vegetable tissue, and so gives firmness to what remains, while it leaves no very succulent portion in which disease may locate itself. This remedy, as far as it is such, is obviously founded on physiological principles. But I utterly question its power in severe cases. If the theory of disease hinted at in No. 1, above, be at all correct, then a field where top shoots should be shortened just *before* a severe change of weather would not be saved, since the general succulence of the whole plant would expose it to the severity of the weather. Less benefit still would be experienced where the change of weather *had already begun.* Allowing however the utmost benefit to this method, it would, in the case of a crop in a rich soil, need frequent repetition, since it is found that the disease may arise at almost any season during the growth of the plant, should sudden changes frequently occur. This supposed remedy then proves to be uncertain in its application and also expensive.

III. *A late English Remedy—that of covering the stems with earth.*—That heat, light and air are essential to the growth of vegetation and especially to the perfect maturity of seeds and fruits is a position too well sustained by the general experience of mankind to require a formal proof. Hence the reason of pruning fruit trees, and of sowing and planting seeds at suitable distances, stirring the soil frequently, &c. To suppose then that, if you cover up the most of the foliage at or before the time of the greatest development of the plant, or even at a considerable time afterwards, the fruit, i. e., in this case, the tubers, will mature just as well, or even nearly so, as otherwise, is against all theory, analogy and experience. Grant, (what I believe to be true) that the disease is occasioned by sudden changes of weather acting on the elaborating system in the foliage; and that, (which I also believe,) our climate is too hot and bright for the normal requirements of the potato, who would look for a remedy in a mode of treatment that entirely deprives it of light and, to a considerable degree, of air and heat.

Suppose also that the stems of the plant, when at their full size, contain the most of the material needful for the growth of the tubers, yet it must be in an immature state. In covering up the most of the foliage with earth at this period, you do, of course, destroy the leaves, those great elaborators of all vegetable material, and with them the elaboration itself. Does any one doubt this, let him strip a plum or an apple tree, a tomato or cucumber vine, while the fruit is immature, and it will never ripen. And yet all these fruit have a local power of elaboration accessory to that of the leaves which the tubers of the potato have not; so that comparatively they are less dependant on the foliage of their respective plants than is the potato on its foliage. That, in the old age of the potato, at a season when common experience shows that its morbid liabilities are mainly past, that then, when the leaves begin to wither from natural ripeness, the stems contain a considerable amount of mature matter is evident from the fact that the crop of tubers is found to increase in weight until the stems are quite dead. But it may be asked, does not some degree of elaboration go on in the stem when covered, especially in connection with those leaves that remain uncovered at the extremity of the plant; and may not this state of things be preferable to a larger amount of foliage diseased by its exposure to atmospheric changes? It may be so. Experience must decide this question. But who would expect a full crop, or call this a perfect remedy? Further, when you consider the labor of this process and the greater breadth of ground, and the correspondent diminution of crop, needful to carry out this plan without disturbing the tubers, it certainly does not deserve the dignified appellation of a *remedy.*

One general remark may close this discussion. When once the disease has begun widely to pervade the foliage, all hope of saving the crop, except by the excision of the vines, is hopeless, except in those cases where, acting with great rapidity, it at once parallizes the circulation, like a sudden frost, and so prevents the transmission of morbid matter to the tuber. In most cases of wide-spread disease all remedies except excision are as powerless as the heat of a bonfire in arresting the approach of the winter. C. E. G. *Utica, Jan.* 4, 1851.

Peat and Peat Charcoal.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., May, 1851.

MESSRS. EDITORS—I have been led to take up the above named subject at the present time, by the interest which attaches to "A report on the economical uses of Peat," by Dr. Thomas Anderson. Dr. Anderson, as many of your readers are aware, is chemist to the Highland and Agricultural Society of Scotland. This gentleman virtually fills the position once occupied by Prof. Johnston, as chemist to the Agricultural Chemistry Association of Scotland, that body having now in a manner merged into the Highland Society, of which it was indeed originally in some measure an offshoot.

Dr. Anderson seems a worthy successor to the distinguished gentleman who preceded him in the same field, and in the time that he has been chemist to the society, has produced some very able, valuable, and interesting papers. To one of these I have referred above.

The results given in this report, are deduced from investigations that were suggested by the extravagant expectations entertained, and promises put forth, by various societies and individuals, on the practicability of converting peat into a great variety of useful and costly substances with comparatively little outlay. Sulphate of ammonia, acetate of lime, naptha, paraffine, &c., are all produced by the distillation of peat, and as it is asserted, at a profit of about 100 per cent. Dr. Anderson's paper throws, as I think, a very great degree of doubt upon the estimate of profits, and renders it probable that this new process, like many others which have preceded it, having the same object in view, will be found too expensive when tried on a large scale.

This part of the "Report" is of least interest to us in the United States, as we have comparatively little real peat. Our extremes of temperature seem not to be favorable to its growth, and so far as my experience extends, it is only to be found on certain parts of the New-England sea-board, where the climate somewhat resembles that of those parts of Europe where peat formations abound.

Our natural boggy or swampy accumulations, are for the most part included under the term *muck*, and are a species of vegetable deposit in low grounds, rather than a regular vegetable growth, such as may be seen in Scotland, uplifting the surface of a peat moss even above that of the surrounding and drier land. This muck has not by any means the indestructible nature of true peat; on exposure to the air, in place of becoming a hard insoluble mass as is the case with peat, it soon crumbles away and decomposes into a rich vegetable mould. This process is especially rapid if it is mixed in a compost, or laid in the bottom of a barn-yard. Here then in the outset, our farmers escape one great difficulty with which those of Scotland are obliged to contend. We have to do with a mass of rich vegetable material easily convertible into manure; they with the same material as to its ultimate composition, but in a present form which if once dry, bids almost entire defiance to the ordinary action of the elements. Their most advantageous method of forming a soil upon the surface of a peat bog, is in many cases to burn by successive parings to a depth of one, two, or three feet, and to mix the ashes thus formed with clay or earth brought up from under the remaining peat. Such processes, and in fact all processes for forming what must be for the first few years an almost wholly artificial soil, are always expensive and tedious. It is therefore fortunate for us, that our farmers in reclaiming their swamps are not, in a great majority of instances at least, obliged to have recourse to them. As soon as our swamps are drained, natural influences commence their work upon the surface, and alter it in such a manner as soon to form a soil, capable of bearing valuable crops.

But there are other points touched upon in this report, that have their importance for the American farmer. The first of these to which I would at present call attention, is relative to the absorbent properties of *peat-charcoal*, or as perhaps many farmers would term it, *charcoal-peat*. The preparation of this charcoal, and its uses in absorbing ammonia, have been always put forward as a prominent advantage connected with the various projects for reclaiming bogs by partial burning. It has been generally supposed that any form of charred vegetable matter possessed, in a considerable degree at least, the same powerful absorbent properties with regard to ammonia, which exist in wood charcoal. Dr. Anderson's experiments indicate that we have been deceived upon this point, and have greatly exaggerated the absorbent powers of many substances.

The peat charcoal acts, it seems, as a *deodoriser*, without acting powerfully as an *absorbent*. The general belief has been, that it would act in both ways with almost equal effect; hence its extensive use in mixing with night-soil, and all putrescent and offensive manures. Poudrettes have been very largely prepared in Europe, by mixing with this material. The fact of its successfully removing all perceptible smell from most offensive mixtures, has been considered a sufficient proof that all of the ammonia, and other valuable escaping products, had been arrested and permanently preserved.

So fixed has been this impression in the public mind, that patents have been taken out for the manufacture of peat-charcoal, and for its employment as a manure in the form of various mixtures. We read accounts of public meetings, where samples of night-soil deprived of smell by means of this charcoal, were exhibited as undoubted evidence of its immense value in directly increasing the ability of the farmer to fertilize his land, by means of cheap and at the same time concentrated manures.

It is scarcely necessary to say that this charcoal, or any charcoal, cannot in itself hold a high rank as a manure. They all chiefly consist of carbon, hydrogen, and oxgyen, the first being by far the larger constitutent, and their value is less as an actual manure than an equal bulk of any common vegetable substance, on account of their comparatively undecomposible nature. The chief importance then of peat-charcoal, as Dr. Anderson observes, is clearly owing to the absorbent powers which it is supposed to possess.

Upon this point he gives us the results of some very careful examinations.

He first tried filtering a liquid containing a small known proportion of ammonia, through a deep layer of peat charcoal; the liquid passed out at the bottom with the smell of ammonia perfectly distinct. On passing putrid urine, having a distinct ammoniacal reaction, through a similar layer, the liquid came out colorless, and deprived of smell, but still distinctly ammoniacal. This proved that the absorbent powers of the peat charcoal were not very rapid in their action. He went still farther however, and allowed various ammoniacal solutions containing known quantities of ammonia, to remain in contact with peat charcoal for some days, under favorable circumstances for absorption. The largest proportion which he found to have been absorbed, amounted to but about the tenth of one per cent. A like experiment with putrid urine, afforded even a still more unfavorable result. Seven or eight trials of this kind, served in the words of Dr. Anderson, to show—"that the absorbtive power of peat charcoal for ammonia, is so small as to be practically of no importance, and its use for this purpose cannot be recommended to the farmer." These are somewhat unexpected results, and probably bear on other varieties of charcoal; indeed I am led to doubt whether wood-charcoal, for practical purposes on a large scale, would exert more than a small part of that extraordinary absorbing power for ammonia, that is shown in the laboratory in a small way by carefully prepared samples. As a deodoriser, it is powerful, but from the character of these trials, I should desire farther experiments before advising the farmer to rely upon it entirely as an absorbent.

Examinations of poudrettes, made by mixing peat charcoal with night-soil, showed that little ammonia had been retained, and that their value as manures was not very great. In fact it would have been at least equally advantageous, to have mixed the night-soil with any sample of porous earth, inasmuch as Prof. Way has shown that all soils possess the power of absorbing quite appreciable quantities of ammonia. The conclusion arrived at is, "that a ton of the night-soil would be much more valuable, and also greatly cheaper, than a ton of the mixture."

Another important branch of this subject was investigated by Dr. Anderson, and it is one which has a still more practical bearing on the operations of the American farmer. He was led to try some experiments upon the power of the peat itself in absorbing ammonia. It is, as all know, a highly porous substance, and might be expected to retain something from liquids brought in contact with it, but the actual result surpassed all expectation.

A weighed portion of peat, dried at 212°, was employed; to this a small quantity of a solution containing a known per centage of ammonia was added. The fluid was of course instantly absorbed, and at the same time the smell of ammonia disappeared, as well as all traces of alkaline reaction. "The ammoniacal solution was gradually added in small successive quantities as long as its odor and reaction disappeared." At a certain point it was found that the odor and reaction reappeared. It thus became evident that ammonia was rapidly and rather largely absorbed. The peat was still quite dry to the touch, but from the known quantity of ammonia added, was found to have absorbed no less than two per cent of its weight. The same sample was afterward spread out in a layer, and exposed to the air for 15 days, when the quantity o' ammonia was found to be still 1½ per cent. "It appears then from this experiment, that peat is capable of absorbing fully two per cent of ammonia without acquiring an alkaline reaction, and when exposed to the air until it again becomes tolerably dry, of *retaining* no less than about 1½ per cent."

The results of subsequent experiments which are detailed in the report, correspond very well with the above statements, and seem to establish the fact that peat is extremely valuable as an absorbent of ammonia, the above quantity being larger than that contained in ordinary yard manure.

Some samples simply dried in the air, also afforded a most encouraging degree of success. I see no reason why the same action is not to be expected from our more easily decomposible muck, nor why some of its well known beneficial effects in composts may not thus be clearly explained. The material from the Scottish swamps becomes hard when dried, and requires considerable power to reduce it to a fine state of division; ours crumbles naturally away, and might easily be dried if spread out in the hot sunny weather of summer. It would then be in the most advantageous state for mixing with manure heaps, spreading over the bottom of barn-yards, or soaking up the liquid of tanks. For such purposes as the latter, it might even be found advisable to dry small quantities by means of artificial heat.

I consider the new view of this subject thus offered by Dr. Anderson, as of very high importance. It indicates to those farmers who have already discovered the value of the muck-heap, the best way of reaping advantage from it; it points out the inestimable importance to the future agriculture of this country, of those vast vegetable deposits which have been for ages accumulating, as it were for the express purpose of repairing the ravages which short-sighted ignorance has made, in the almost utter exhaustion of many of our fairest and originally most fertile districts.

I would recommend experiments in mixing severally dried and undried peat, common earth and charcoal, with like quantities of barn-yard manure. Yours truly, John P. Norton.

Profits of Farming.

This was the subject of discussion at one of the farmer's meetings at the State House in Boston last winter. The speakers expressed different opinions in regard to the profits of farming. This diversity of opinion is not strange, when it is considered that the profit and loss of farming varies according to many circumstances. Thus a good farmer, favored with a good farm, and enjoying advantages in regard to markets, would have no hesitation in declaring that "money could be made by farming," while another, differently situated, states that "it is a general opinion in his section that farming was not profitable." As some of the estimates and statements may interest our readers, we abstract the following from the *Plowman's* report.

Mr. **Barrett** of Belchertown, said he had seen men commence by running in debt for land and pay for it, and increase the dimensions of their farms. The farmer should study the nature of his soil and what is adapted to it. Some kinds of produce would be profitable while other kinds might not. In various breeds of stock, there was nearly one-half difference as to profit. Some breeds would give nearly as much again profit as others on the same keeping. He referred to a man who purchased a farm worth $2500, who had paid for it, and now had money at interest. Where they had one farmer fail, fifty manufacturers were blown sky high!

Mr. **Sheldon**, of Wilmington, thought farming under good management, as profitable as any other business. Mechanics and traders could not subsist unless there was profit in farming. As an example of the difference in management, he said he had seen two men with two small yokes of oxen plowing in one field. in the adjoining lot he had seen a boy with one yoke of large cattle doing a better business. He cited the case of a woman whose husband died $800 in debt. Her oldest boy was now 21. She had paid off the debt, brought up her family at home—the buildings were improved, and the whole would sell for 50 per cent. more than when she took charge of the farm.

"A change has been going on."

In years past there has been a constant tide of emigration running from country to town. Young men and maidens, to gratify their pride, ambition and acquisitiveness have left their father's firesides and taken up their abode with strangers. Old farmers in a great many instances, have been unable to keep one of their sons at home, to take care of them in their declining years, and to take the homestead when they are "gathered to their fathers." In some rural districts there is now scarcely a young person between the ages of sixteen and twenty-five. It is not strange that the professions are full, and that all industrial occupations are crowded with operatives. The supply of manufactured commodities is exceeding the demand, and prices are decreasing; consequently wages are not so high, and there is not that inducement there was once, to engage in other than rural pursuits.

"A change came o'er the spirit of their dream." Man, like the lower animals, loves the pure air and free sunshine, to roam over the green fields, and to find "pleasure in the pathless woods." Confined to toil year after year, between walls of brick and mortar, hearing only the everlasting hum of machinery, or engaging in the unvarying routine of business, is a life hard to be endured. Hence the eagerness with which the tired denizens of the city, rush out into the country when an opportunity presents itself. The poor artisan who is obliged to labor every day for his daily bread, must stay in the smoke-stained atmosphere, whereas if he could "*vote* himself a farm," he would soon leave the crowded city. Many that have gained a competency are seeking a home in the country. And young men that a few years since left their father's farm, thinking it would be a fine thing to work in a manufactory or machine shop, are becoming weary of such a life. Although receiving good pay, it is irksome after awhile, to be controlled by the factory bell, in their "goings out and comings in." Very unpleasant to think that the burden of life is to

"Eat, work, sleep, and then
Eat, work, and sleep again."

Hence, discontent arises, and magnifying the evils of their situation, they pine for the free and independent life that the farmer enjoys. And so, many that left the farm and became artisans, return again to the vocation of their early days.

Radical changes may sometimes be wise, but they are often disastrous. A person by changing his occupation does not change his character, nor acquire thereby a new accession of energy or wisdom. It requires time for one to adapt himself to a new situation or a new pursuit; there are disappointments to meet, and evils to encounter that imagination had not suggested, and many have verified in their own experience the sentiment of Watts,

"It is a poor relief we gain,
To change the place and keep the pain."

The "sign of the times," if we read them aright, do not indicate so great a degree of prosperity as has been enjoyed for a few years past. Should there be a still greater depression in the manufacturing interest, other interests will also suffer, and there will be greater inducements to engage in agricultural pursuits, as those always give promise of the means of living. Therefore it would be unwise for farmers, at present to think of "selling out" and changing their vocation. W. L. EATON.

Good and Bad Farming.

EDS. CULTIVATOR—Having long been a reader of your journal, and having grown up under its teachings, I take this opportunity to let you know what I am about. The farm I now occupy, contains over 500 acres, 200 of which are under improvement, 100 are marsh, and the rest timber and pasture land. The soil is composed of a rich black loam, mixed with fine gravel. This being my second years' experience as a farmer, you will not expect great things. In giving you a description, I shall draw a picture of farming as it is done in our neighborhood, with few exceptions. In the first place as manure demands our first attention, we manage it in the following manner. Our straw, (of which we have great quantities,) is stacked on the ground, and pulled out and trod under foot by cattle. These huge piles are left to ferment one, two, or three years, till they become less bulky, and then you hear farmers say—"manure does no good"—never thinking that in the exposure it has been subjected to, it has lost much of its fertilising property.

Next comes plowing for spring crops, which is done by beginning somewhere in a lot and going somewhere else on the other side, without any regard to width of land or straightness of ridge. The plows are without wheels, and are drawn by two light horses or oxen, at a depth of from three to five inches. There are some exceptions to this kind of management among those who take the Cultivator; but I am speaking of those who have skinned their farms till the bones begin to stick out, in the shape of mortgages. Now I farmed it one year in this way, and cleared about $200. This set me to thinking, the result of which was (after long consultation with the Cultivator, old and new volumes,) the sale of my light teams and the purchase of heavy ones. I rigged my plows with wheels, obtained labor-saving machines, cleaned out the manure from my yards twice a year, plowed it in once, and then plowed some two inches deeper, thus mixing the manure and subsoil together. The result of this different management was $400 profit. I now keep three books; one a memorandum-book, in which is noted everything that needs doing; one a day-book, in which I note what has been done each day, and one for accounts. There are a few things that are very important to farmers here: 1st, to save manure; 2nd, stock their farms to clover; 3d, deep and thorough plowing. L. D. WATKINS. *Elba, Mich.*

Farmers should Read.

MESSRS. EDITORS—As this is the season for study and mental improvement with farmers, it is to be hoped that it will be improved to the best advantage.

Could the body of farmers in the several states, improve their leisure time in the study of the farm, and in gaining general knowledge, a greater impulse would be given to improved agriculture than all the "Fairs" have done in the last five years. It is true our yearly fairs please the eye and improve the mind, and help to keep up a friendly feeling among farmers. Yet it is the study of the farm by the farmer, that leads way the to permanent improvements. Examples from intelligent farmers go a great way in introducing improved methods. Yet there are but few farmers who make improvements, unless they are in all respects *reading* and *thinking* men.

Of all classes of laboring men, farmers have the most leisure in course of the year, and they ought to be the best educated. It has been the practice, in what are called the "Professions," for men to spend years in close mental application to fit themselves for their calling. And what business is followed which requires a more varied study than that of agriculture? That it is generally carried on by a scanty supply of "head-work," I am ready to admit. But this does not prove that it is, or should be necessarily so. It only proves that the farmer is willing to plod on from year to year at a hap-hazard rate, with a less amount of knowledge of his business than would satisfy any other class of men. I am often surprised, in asking farmers to take and read an agricultural paper, to hear them reply that they would take it, but they have not the time to read it. In nine cases out of ten, the plain English of this is they have not the will or disposition to read. The worst of all excuses that the farmer can plead, is that he has not the *time* to read. Every individual has time to spend well or ill, as his tastes dictate. That farmer who does nothing more than dig and delve, from the beginning to the end of the year, lives to a very small purpose indeed.

There is a satisfaction found in reading and improving the mind, which can only be appreciated when it is experienced. The farmer who only reads his weekly newspaper, during the long winter evenings, knows very little of the economy of time in reading. Let him reduce his reading to a system and he will be astonished at the amount of agricultural and other reading that he can master in one winter. But if any reading must have the preference, let it be that which relates to the farm. L. Durand. *Derby, Ct., Jan.* 28, 1851.

Destruction of Quack Grass.

There are few foes of cheap and easy cultivation so unconquerable, by common means, as quack grass. Its horny headed runner pushes its way readily through all sorts of soils, not stopping for a potato, through whose tubers I have twice known it to penetrate. A large amount of labor is often spent upon quack grass to little effect. The secret of its cheap and ready destruction lies in hoeing it frequently and thoroughly in dry weather, in connection with a crop that admits of being worked among all summer. Indian corn and cabbage are those crops in the cultivation of which I have frequently eradicated quack in a single season. On small spots, and amid the culture of delicate vegetables, it is undoubtedly best to extract it from the soil with the spade and rake, removing and burning the whole. But faithful hoeing and shaking it up, in dry weather, in the cultivation of the abovementioned crops, will certainly destroy it in a much cheaper manner. C. E. G. *Utica, Jan.* 23, 1851.

DOMESTIC ECONOMY.

Dairy Matters.

Scalded or "Clouted" Cream.—A practice has been long pursued in Devonshire, England, and has been to some extent introduced in this country, of scalding the milk for the purpose of making butter. It is a common opinion that the scalding process increases the quantity of cream and butter from a given quantity of milk. But in the report of a late survey of the county of Somerset, published in the Transactions of the Royal Ag. Society for 1850, there is an account of an experiment, by which it appears that there is no increase in the weight of butter by scalding the milk. Two lots of milk, of twelve quarts each, were taken—the one scalded, and the other set in the ordinary mode—the butter from each was carefully weighed and then subjected to analysis by Prof. Way. The analysis showed that the proportion of pure butter in that made from the scalded milk was not greater than from the other. It appears, however, that there are some practical advantages attached to the scalding process, which are "that the butter is more quickly made by stirring with the hand or with a stick; and that it keeps much longer." The analysis throws little or no light on the question why the scalding process should add to the keeping quality of the butter. The advantage in churning is attributed to the bursting of the bubbles of casein which contain the oily matter, by the heat, thus facilitating the process of separation; and it is probable that this perfect separation of the oil from the casein, is the cause of the butter from the scalded milk keeping better.

Scalding Milk.—A correspondent of the Dollar Newspaper, says that in Cornwall, England, milk, after having been cooled some hours, is scalded over a *very slow* fire, and then again cooled. "The cream is taken off from 24 to 30 hours from the time of milking, as needed. Cream from milk thus managed, is delicious—too good to talk about—and so rich and thick that I have seen a common dinner-plate laid on the pan on the cream, without breaking its surface."

Profitable Cow.—John Nichols, of Salem, offered at the last exhibition of the Essex county (Mass.) Ag. Society, a cow seven years old, which he stated had given in the preceding sixteen months, 6,100 quarts of milk. Of this quantity, he states that he sold and used 1,274 quarts at six cents per quart, $76.44, and 4,826 quarts at five cents per quart, $241.30—making a total of $317.74. The expense of feeding the cow in the same time, was stated at $104,74,—leaving a profit of $213. Her average yield of milk for the sixteen months, was twelve and a-half quarts per day. She calved twice during that time: viz: April 29th, 1849, and March 7th, 1850.

Another Vermont Dairy.—The *Green Mountain Freeman* states that E. Marsh has made, the past season, from four cows, 934 lbs. butter, and 100 lbs. cheese, besides the milk and cream used in a family of two persons; from the skimmed milk, and about eight bushels of corn, 648 lbs. of pork.

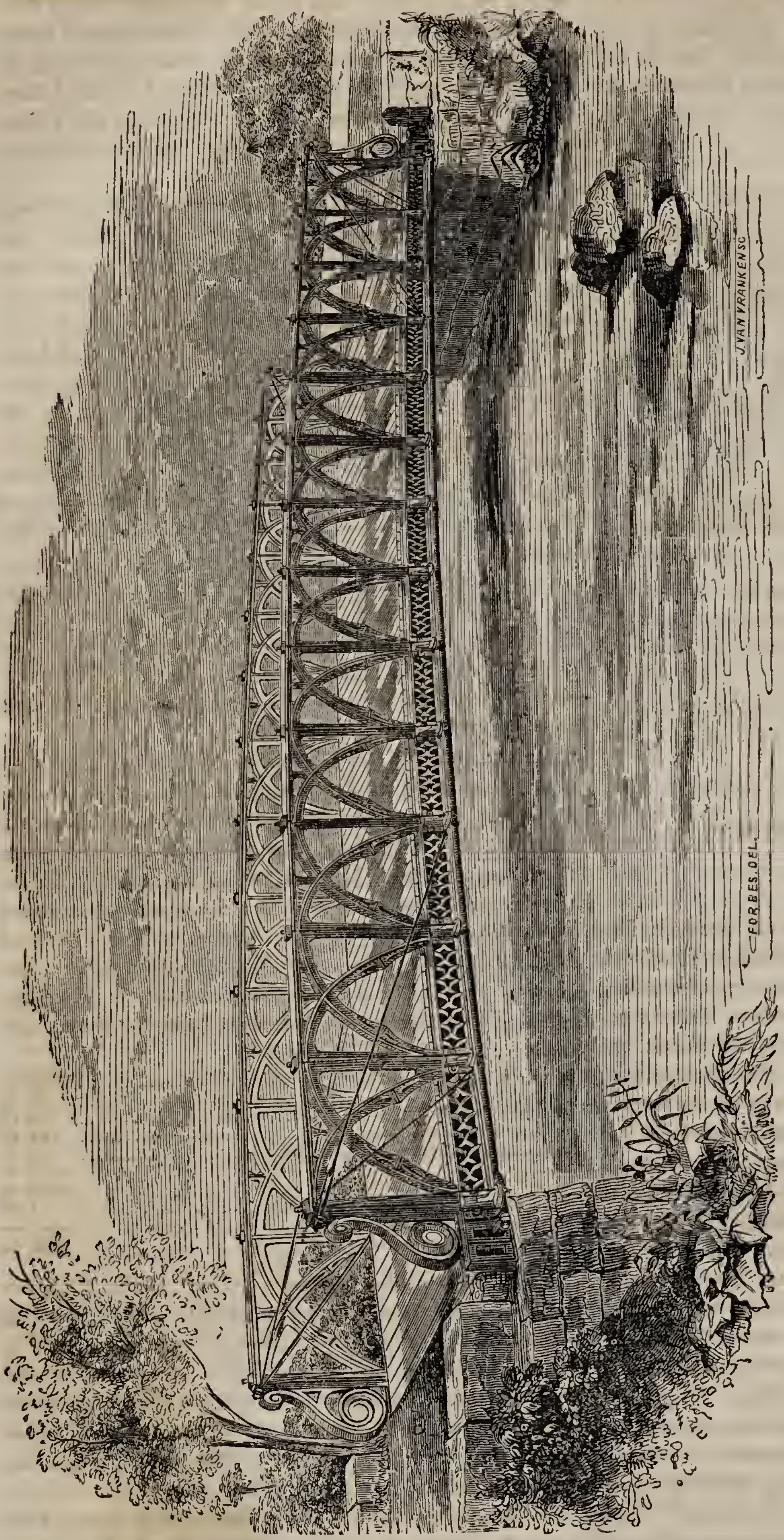
Profits of Six Cows—Value of Skimmed-Milk.—Joel Edmunds, of Framingham, Mass., gives in the *Plowman*, an account of the products obtained from six cows in 1847. In the first place he fatted and sold from them seven calves. He sold during the season, 963 lbs. butter, and 117 gallons of milk. In April he purchased three shotes which he fed *entirely* on the skimmed milk of the six cows—not allowing them even "the crumbs that fell from their owner's table." The hogs were sold for $44,19 more than he paid for them. He sums up the proceeds as follows:

Butter sold 963 lbs. at 21⅔ cts. per lb.,	$208	65
Seven calves,	44	85
Milk, 117 gallons,	12	74
Increase on pork,	44	19
Butter used in family, probably 75 lbs.,	16	25
	$326	68
Deduct for one calf purchased,	1	25
	$325	43

Lard Candles.—A correspondent of the Michigan Farmer, gives the following method of making candles of hog's lard, which he says prove of best quality. Put all the lard, say enough for 5 lbs. of candles, in the smelter; after it attains a heat of about 200 Fahr. throw in 3 or 4 ounces of lime, and about an ounce of aquafortis, and then mould them. The lime purifies the grease and the aquafortis hardens it.

To Keep Preserves, apply the white of an egg with a suitable brush to a single thickness of white tissue paper, with which cover over the jars, overlapping the edges an inch or two. No tying is required. The whole will become, when dry, as tight as a drum.

New-Water Cement.—It is said a very strong and valuable water cement has been made by Gen. Pasley of the British army, consisting merely of four parts by weight of chalk and five of blue clay. According to the experiments made to prove its strength, it must possess extraordinary tenacity.

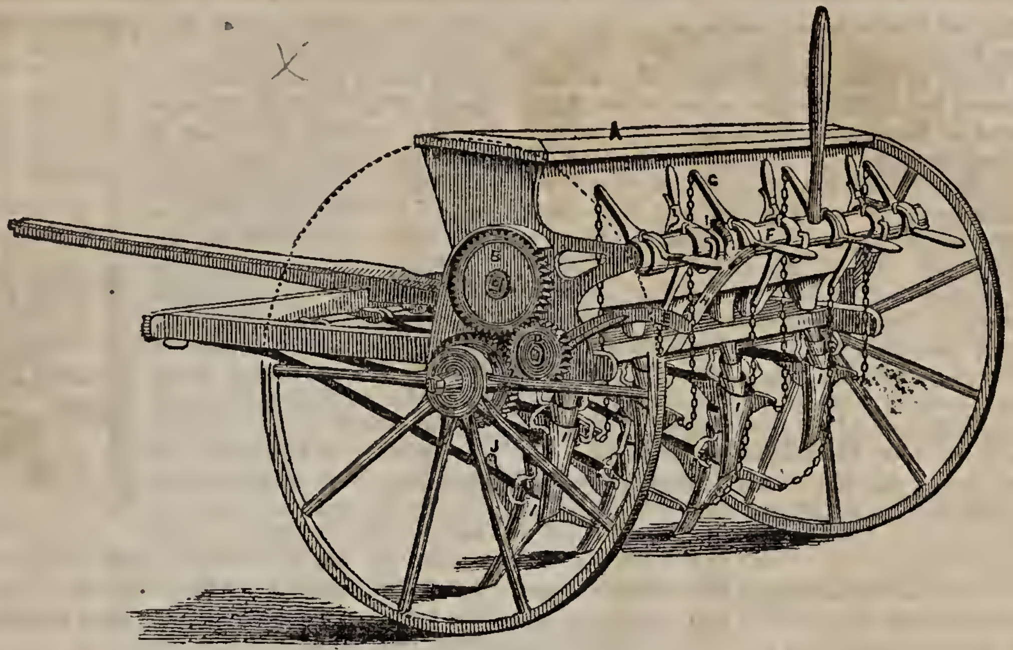

FORBES. DEL.
J. VAN VRANKEN SC.

Severson's Iron Bridge.

The above is a view of an Iron Bridge, invented by B. Severson, of Schenectady, N. Y. It is formed of cast and wrought iron, and in addition to the requisite strength and durability necessary in such structures, has much beauty and neatness of style. A bridge on this plan has been constructed at Schenectady, and has been subjected to a severe test as to strength. According to a certificate, signed by the Mayor of Schenectady and others, this bridge, which is 72 feet span, and weighs $14\frac{1}{2}$ tons, was first tried by putting on it 35 tons of iron. which was left there for two days. The weight was then increased to 42 tons, and left for thirty hours, when a careful examination was made of the effect produced on the bridge, and the result, as the gentlemen say, was, "that, although we think the test amply sufficient for a road bridge, yet we believe it falls far short of a full test of its ultimate strength." They add—"We consider it a strong, cheap and durable bridge, and that it may be made to span great lengths with sufficient strength for all bridging purposes, and the design is more beautiful than any one that has ever come under our notice." Messrs. Clute, of Schenectady, will furnish any particulars, or execute orders for this bridge.

Durable Roofs.—Roofs of buildings, according to the Genesee Farmer, are now successfully made, by first covering with sheets of tarred paper, which is then covered with hot pitch, and with a coating of fine gravel while the pitch is hot. The cost is about the same as with shingles. Old and leaky roofs are cured by two successive coats of hot coal tar, each followed with a covering of sand, care being taken to introduce the tar into all the crevices.

Presents to Royalty.—We observe among the articles sent from Cincinnati to the World's Fair, a notice of a jar of preserved peaches for Queen Victoria, and a fine shirt for Prince Albert. Would it not look a little better, and less like worshipping rank and royalty, for plain republicans to confer their presents on eminent men of science, literature, or philanthropy, who may happen to have short purses, and there are many such?



Improved Seed Drill.

The accompanying cut is a representation of a seed drill, on which important improvements are said to have been made by Lyman Bickford and Henry Huffman, of Macedon, Wayne county, N. Y. The cut gives a perspective view of the machine, with its external gearing, &c. It is said to operate with great accuracy, being readily governed as to the amount of seed sown; and is also recommended on account of its simplicity and completeness of construction. Particulars can be learned by addressing the persons above named.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Pyramidal Pear Trees.

The following description, given in the Horticulturist, by its Editor, A. J. Downing, of the most perfect specimen, perhaps, of pyramidal training in existence, cannot fail to be interesting to all those who have a keen eye for seeing every thing done in the most perfect manner, and who are not satisfied with half-way performances of any kind. At the same time, the mode of pruning is so distinctly described as to possess much practical value.

The most beautiful sight, in the way of hardy fruit tree culture, that greeted our eyes last season, in Europe, was that of the Pyramidal Pear Trees in the *Jardin des Plantes.*

One side of this great national garden, which, with its parterres, schools and museums, is a vast collection of all that is interesting in Natural History, is a piece of ground of perhaps an acre, somewhat away from the principal walks. It is separated from the rest of the garden, (to which the public has the freest access,) by an iron railing and a gate, which is kept locked. This is the "school of pears"—that is to say, the garden in which Monsieur Cappe, the head of the fruit department, has his house, and more especially his beautiful pear trees—to which he has given up almost the whole of the area allotted to him.

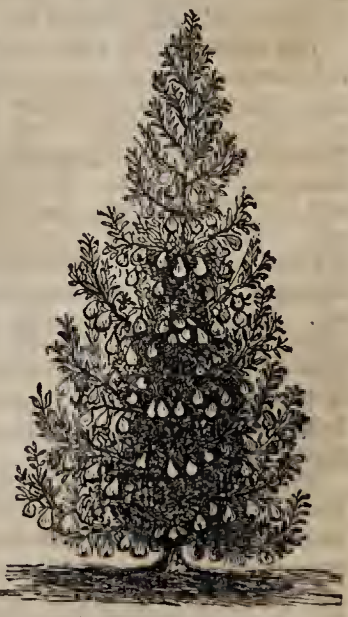
It was September when we were in this garden. We were weary with a day of sight-seeing, and a long ramble through the other different departments of the garden, and though very desirous of seeing M. Cappe's trees, which have become rather famous as fine specimens of the art of pruning, and had come provided with a note to him which would open the iron gate where the trees of knowledge stood—we had almost determined before we reached it, that we would be content with a passing glance from the outside, at what we supposed would present a familiar appearance to our eyes.

But a passing glance through the iron railing soon made us feel that M. Cappe was not a man to be neglected. And patiently we waited till one of the garcons had found him and delivered our note, in order that we might enter the now unclosed gate, and make the acquaintance of the master of pear trees.

We do not wish to depreciate the magnificent pictures in the Louvre, but we must still be allowed to say, that *in their way*, M. Cappe's pear trees are as well worth seeing as any of the great master-pieces of art there. Nobody (with a soul) would think of comparing a Poussin with a pear tree, yet what one of Poussin's grand sylvan landscapes, (in which you can almost feel the tempest that sways the tops,) is to a landscape on a signboard, M. Cappe's pyramidal pear trees are to the pear trees of common gardens, both in England and America

Our readers must imagine a level plot of ground, marked off into beds or borders, about ten feet wide, with a narrow alley between. In a straight line in the middle of these beds stand the pear trees—about ten feet distant from each other. And such pear trees! so symmetrically shaped, forming perfect pyramids of foliage in the finest tapering lines from top to bottom; so healthy and luxuriant, with not a leaf nor branch wanting, and with the utmost possible vigor and beauty of growth, as if not "nice art" had educated them into this shape, but rather they had grown so because it was their nature, and they could not help it; and so laden all over with the finest and fairest fruit—golden, orange, dark bronze red, or tinted with the ruddiest tints of autumn; in short, so altogether the complete and perfect thing as garden pear trees, that we strongly suspect that good Monsieur Cappe has a better understanding with mistress Pomona, than any of us, her Anglo devotees.

We had a very interesting chat with M. Cappe about the management of his trees, which we shall give the substance of for the benefit of our readers. We may say, in the first place,



Cappe's Pyramidal Pear Tree.

that the climate of Paris is so much like our own, that any lesson in open air culture learned there, is worth twice as much as if learned in England. In fact, the pear tree grows but indifferently as an open standard in many parts of England—while M. Cappe's trees, almost all of them, had made shoots at the ends of the branches, on all sides, about two feet in length. They had been planted from 10 to 18 years, and were from a dozen to eighteen feet high. None of them were on quince stocks—though Mr. C. admitted the value of the stocks for particular varieties. Neither does he practice root-pruning, but rather smiled at our account of the importance attached to it in England by some of the best cultivators—saying "it is all very well for a cold, moist country—but neither you nor us need it." His pear trees are all worked on pear stocks. They are planted in a good mellow loam—simply trenched two and a half feet deep, and about eight feet wide, and when they are loosened in the spring, the whole top of the border is formed into a hollow, shaped like a shallow pan, two or three inches deep. Over the surface of this is spread a mulching, an inch deep, of decomposed barnyard manure—which not only shades and keeps the soil cool, but every time the rain falls and fills the basin containing this dressing or mulching of manure, it carries down to the roots their best food. It will be remembered that the soil of Paris is calcareous, and there is, probably, no lack of lime for the growth of the pear.

So much for general culture. Now a word as to *pruning*, which is the great point in which the French excel us—it being in short, the *education* of the tree. "Just as the twig is bent the tree's inclined."

M. Cappe's method of pruning, which he was good enough to explain to us very clearly, is simple, and easily understood. Perhaps we should say it is easily explained with the knife in hand, and the tree before one. But as our thousands of readers are not within such convenient reach of the eye, we must do the best we can to make it clear by words.

M. Cappe confines his pruning to three seasons of the year. In the month of March, or before the buds start, he shortens back with the knife all the leading shoots, fig. 2, *a. a.*—that is, the terminal shoots at the end of each side branch. Of course, this forces out not only a new leading shoot at the end of the branch, but side shoots, *b, b*, at various places on the lower part of the shoot. These side shoots are left to grow till the *end of May*. They have then pushed out to about four or five inches in length. The ends of all these side shoots are then *pinched off*, leaving only about an inch and a half at the bottom of the shoot.

Fig. 3, shows one of the branches, with the side shoots, as they are at the end of June. The dotted lines, *b, b*, show the point to which these shoots should be pinched off.

The terminal or leading shoot, *c*, is left entire, in order to draw up the sap, which would otherwise force all the side shoots into new growth. Notwithstanding this precaution, in luxuriant seasons the side shoots will frequently push out new shoots again, just below where they were pinched. This being the case, about *the last* of August M. Cappe shortens back these new side shoots to about an inch and a half. But this time he does not pinch them off. He *breaks* them, and leaves the broken end for several days attached and hanging down, so that the flow of sap is not so suddenly checked as when the branch is pinched or cut off—and the danger of new shoots being forced out a third time is thereby effectually guarded against.

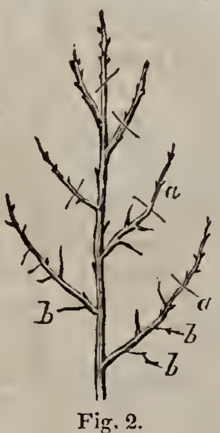


Fig. 2.

The object of this stopping the side branches, is to accumulate the sap, or, more properly, the organizable matter in these shortened branches, by which means the remaining buds become fruit-buds instead of wood-buds. They also become spurs, distributed over the whole tree, which bear regularly year after year—sending out new side side shoots, which are pinched back in the same manner every summer.

In order to keep the tre finely proportioned, the eye of the pruner must be a nice one, that he may, with a glance, regulate the pruning of the terminal branches or leaders, which as we have just said, are shortened back in March—for then is the time to adjust any extravagancies of growth which the tree may have run into, on either side: and in the summer the balance of growth is adjusted by pinching the side shoots that start out nearest the ends of the branches, quite short, say an inch and a half, while those that start near the bottom of the branch, (or the center of the tree,) where they have less nourishment, are left from four to five inches long.

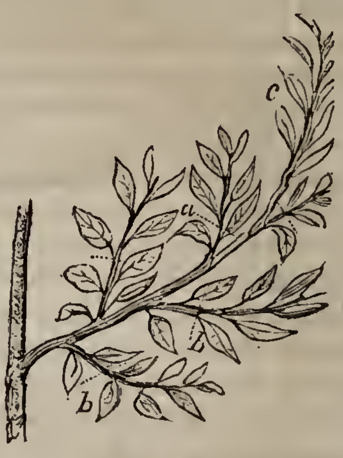


Fig. 3.

Understanding this mode of pruning, nothing is easier than to form pyramidal pear trees of the most perfect symmetry and beauty of form. But in order to have the branches regularly produced from the ground to the summit, you must plant a tree which is only a couple of feet high, so that you can form the first tier of branches quite near the ground, by cutting back the leader at the very outset—for if the tree is once allowed to form a clean body or stem, of course it is impossible afterwards to give it the requisite shape and fullness of branches at the bottom.

Our readers will see that we are not giving this account for the benefit of our orchardists. It is a refinement in horticulture which belongs to the fruit garden—but which well repays the amateur or practical gardener, both by the increased fruitfulness and beauty of the trees. From the especially healthy condition of the trees in the *Jardin des Plantes*, as well as from other analogous instances, we are led to believe that by the fine clothing of foliage which protects the bark of the trunk and branches from the violence of the sun, these pyramidal trees will be found less liable to many diseases that attack the pear tree in climates like France and the United States, than when the trunks of the trees are fully exposed to the sun.

New Fruits.

The last annual report of the Fruit Committee of the Massachusetts Horticultural Society, gives the following results of the experiments in the culture of several new fruits of celebrity, in that region:—

Northern Spy.—Specimens raised in Massachusetts were exhibited for the first time the past season. They appear to have been much inferior in size and quality to those raised in Western New-York. The results of a single season, and for the first year of bearing, are not however generally reliable.

Doyenne Boussock.—This pear, which resembles the White Doyenne, but of larger size, has borne for several years, is highly commended by the Committee, and "appears to be worthy of extensive cultivation."

Beurre d' Anjou and Paradise d' Automne—"fine pears, that do not appear to have received that attention from cultivators, to which they are justly entitled."

Beurre Langelier—"gives promise of maintaining in this country its European reputation—a handsome fruit, of good size, yellow color, with a fine blush in the sun,—melting, juicy, and of an agreeable taste—whose season is January and February, though some of the specimens this year ripened in November."

Onondaga or Swan's Orange—"although not in the very first rank for excellence—different specimens varying much in quality,—its general good qualities, size, and beauty,—with the reputed productiveness, vigorous habit, and early bearing of the trees,—will, it is believed. render it worthy of an extended cultivation."

The Reine Claude de Bavay Plum—this new variety has excited a greal deal of attention—the Committee say of it, "it is a plum of medium size, of yellowish green color, and sweet pleasant flavor—a cling-stone, ripening late in the season, and keeping into October—thus far hardly maintaining the reputation that preceded its introduction."

Jenny's Seedling Strawberry.—"The plants are very hardy and productive; the berries very solid and heavy—when perfectly ripe, losing their acidity, and becoming very fine in flavor. In the opinion of your committee, it is a very estimable variety."

It appears that a very large number of new fruits, introduced under high names and with the highest recommendations, ultimately prove of no value. The committee arrive at the following very just conclusion:—"Upon the whole, it is believed that it will prove the best and safest course for beginners to make their selections from well known and established kinds; unless, in their estimation, the gratification of a desire for novelties, —an interest in watching the progress and development of some new varieties, and of contributing from their experience a share to the common stock of pomological knowledge—form a sufficient recompense for probably repeated disappointments."

Summer Pruning Hardy Grapes.

"Mr. Editor:—Will you please furnish a few plain and simple directions for pruning out-door hardy grapes, for one who has no experience in the matter—mine for some years past have been quite neglected, and neither the quantity nor the quality of the grapes are what I wish. R. D."

To suffer the rapid-growing American varieties of the grape, as the Isabella and Catawba, to grow without pruning or restraint, from a rich and well cultivated soil which all should have, is very much like planting a crop of corn so thick that no grain can ever be formed or properly matured in the midst of its profusion of stalks and leaves. A proper thinning by means of pruning becomes indispensible. To do this work right we must first understand distinctly what is wanted.

The grape bears its bunches of fruit on shoots of the present year's growth, which spring from buds on shoots of the previous year. If therefore, no pruning is given the vine, a profusion of shoots will interfere with each other's growth, and all will be weak and feeble; and the bunches of fruit will consequently be small, badly ripened and deficient in flavor. Hence the first requisite is to obtain a proper number of vigorous and evenly distributed shoots. For this purpose, let the vine be trained on the trellis as represented in Fig. 1, by extending two principal branches or arms each way horizontally, near the ground, from which spring upwards the fruit bearing shoots, distributed at regular intervals. When young vines are planted this extension must be gradual, requiring some years to cover the intended surface; that is the pruning should be such that there may be first only two upright shoots, then four, then six, and so on, by successive years. If an old vine has been neglected, it must be pruned back in autumn or winter to a mere stump, leaving a few buds for new shoots, only two of which are to be allowed to grow for forming the horizontal arms.

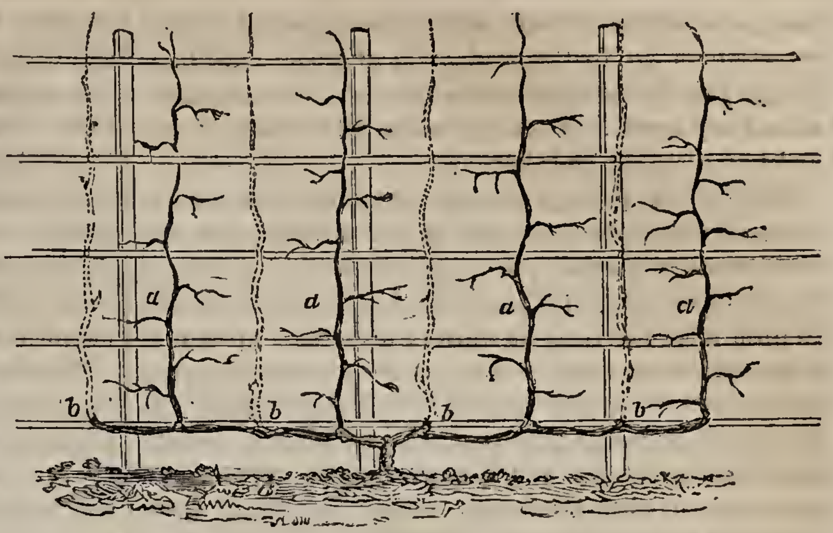


Fig. 1.

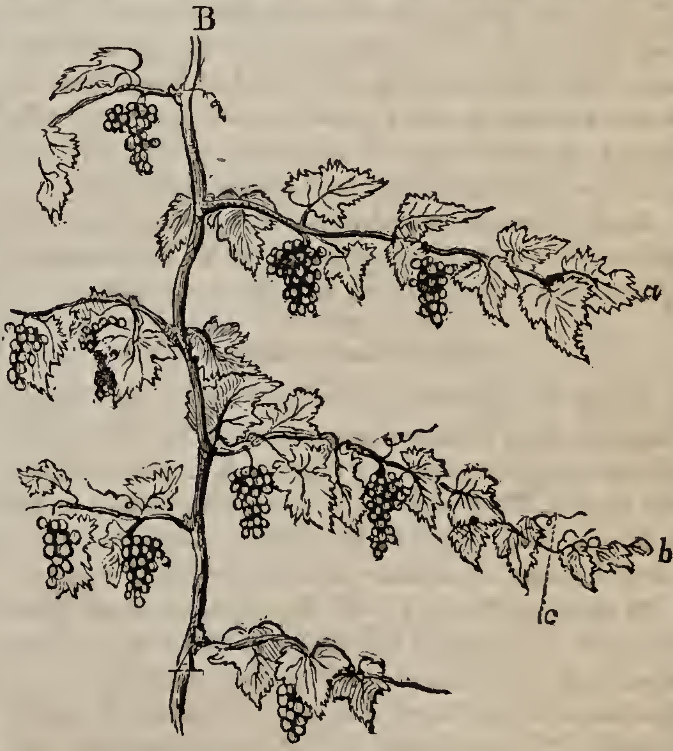


Fig. 2.

After the trellis is covered as shown in Fig. 1, a regular annual crop is secured by the following management. The shoots *a. a. a. a.* are those of last year's growth, and the short side-shoots springing from them are those of the present year which bear the fruit. A portion of one of these upright shoots is shown on an enlarged scale in Fig. 2,—A B, being the two years' wood, and the smaller side shoots with bunches of fruit, as *a*, *b*, those of the present year. While these are thus affording a crop the current season, provision must be made for the next. For this purpose, last years' bearing shoots were to be cut off to a bud each at *b. b. b. b*, (Fig. 1,) so that the strong, upright shoots shown by the dotted lines, shall be now growing for next year's bearers. These being the present year's wood, will of course bear fruit, but all the bunches must be removed as soon as they form, that all the strength otherwise expended in their growth may go to the production of wood, until their proper time for bearing shall arrive, on their new side-shoots next year. Thus a constant alternation of one and two years shoots is kept up.

Most of the pruning already mentioned is done in autumn, winter, or early spring; but summer pruning is of much importance, if large, well-filled bunches of the best flavored grapes are desired. If the vine be left to itself after receiving its winter's pruning, a great profusion of useless wood will be produced, resulting in a similar evil to entire neglect, but less in degree. It should be occasionally examined, say twice a month during the early part of the summer, and only enough shoots left to cover the surface evenly at regular intervals; and also to allow at regular intervals the clear and unobstructed growth of the new uprights, shown by dotted lines in Fig. 1. The bunches of fruit must be reduced in number so that there may be only two on each side shoot; and after the bunches have well formed, the side-shoots are to be pinched or broken off as shown at the dotted line *c*, Fig. 2, so as to leave two or three joints above the upper bunch as at *a*. If allowed to run without pinching off, there will be too thick a growth of leaves and shoots; while on the other hand, if a sufficiency of leaves are not left, the fruit cannot well mature. For, it must never be forgotten, that the *full growth* and *perfect ripening* of the FRUIT, depends wholly on a *full supply of leaves, with a free admission of light and air for their healthy development.* Hence the entire error of the practice of picking off the leaves to let the light in on the fruit. And hence too, the longer the side shoots extend themselves before being nipped, provided they do not crowd or interfere with each other, the better matured will be the grapes.

These directions will not be new to experienced cultivators; but to beginners, from whom we have many inquiries on the subject, they may prove valuable.

◆

Miscellaneous Items.

LARGE MARKET GARDEN.—The FITCHES, of Fulham, England, keep 12 horses in constant employment in marketing vegetables, drawing manure, &c., for their market garden. They employ 150 laborers in summer, and 70 in winter. So perfect is their culture, that a visitor asserted that he had not seen a weed on their whole 150 acres.

QUINCES ON THORNS.—W. BACON states in the Horticulturist, that some of the most beautiful quinces he has seen, grew on stocks of the common native thorn, the specimens being large, fair, and possessed of golden beauty. The stocks were an inch to an inch and a half in diameter, and were grafted about two feet high. These trees are less bushy, require less pruning, are more hardy, and are not liable to the attacks of the borer. The country abounds with thorn bushes, which may be thus changed to objects of beauty and usefulness.

HEDGES.—Some of the papers speak of fine hedges being made of the Siberian Crab. A drawback is its liability to the attacks of the mice. Even the Osage orange, it appears, has been injured by mice. The buckthorn, on account of its poisonous quality, appears to be proof against all attacks of the kind, at the same time that it is easily propagated, easily transplanted, needs clipping but once a year, and assumes a thick, dense, and hedgy growth.

THE DIANA GRAPE.—ROBERT HARWELL of Mobile, says, "The Diana Grape fruited with me this year, and is certainly the best grape I ever tasted. The vine is a strong grower and good bearer, and will suit this climate as well as we could desire. I had Catawba grapes ripe at the same time the Dianas were ripe, and although the Catawba is a most excellent grape, it cannot be compared with the Diana for fine flavor."—[Hort.]

VERBENAS.—A correspondent of Moore's New-Yorker, gives the following directions to make a verbena grow so as to be really a verbena. Remove the earth in the spring from a circle two and a half feet in diameter, and to a depth of one foot; then loosen the soil at the bottom thoroughly with a bar. Put in some well rotted fine manure as the earth is thrown back, rounding slightly the surface. In this bed set out a plant of *Robinson's Defiance.* Its splendor will repay the labor.

GOOD TREATMENT.—LINUS CONE, of Oakland county, Michigan, states in the Michigan Farmer, that there is now standing in his fruit garden a pear tree set a year ago last spring, when about as large as one's finger, and two feet high. It is now five inches in diameter, eight feet high, and the united length of the growth of the several branches last season, was fifty feet. No further explanation is needed than the simple fact that he is one of the most skillful culturists in that state.

SELLING FRUIT IN ILLINOIS.—The Prairie Farmer informs us that a man living near the Peatonic river, who some years ago set out an orchard of seedling apples, giving them little care, sold the past season $400 worth of fruit from them; and another man on the same river, who selected good varieties and gave his trees good attention, sold fruit to the amount of $1,000. A. A. Hilliard, of Macoupin co., Ill., brought 60 bushels of peaches to Chicago merely as an experiment, and sold them for $2.50 per bushel. In the eastern cities they sold so low as scarcely to repay gathering.

Kill the Weeds.

If June is the season of flowers, it is equally the season of weeds. The soil has now become warmed, and the vital forces of nature, awakened from the dormancy of winter, are evinced in the speedy germination and rapid growth of all plants, whether favorable or unfavorable to the interest of the farmer and gardener.

Weeds should be destroyed as soon as they appear. The sooner they are attacked, the easier they are killed, the less injury they do to the crop, and the less they exhaust the soil. The mere brush of a hoe, or the scratch of a harrow, will effect more in the destruction of weeds which have just vegetated, than a much greater amount of labor applied after they have had time to extend their roots and become firmly fastened in the soil. The farmer and gardener should therefore begin with a determination to prevent, in the outset, the growth of everything injurious to crops, and they must follow up the warfare through the season, not only for the benefit of present, but future harvests; for there is no truer maxim in agriculture, than that "one year's seeding may make seven years weeding."

When the weather is dry, weeds are easily killed, in their earlier stages, by being simply cut up or torn up, and left on the surface of the ground. In wet weather, or when weeds have obtained a larger size, they are more retentive of life, and though dug up and exposed to sunshine for a day or two, may take root and grow again if rain should then occur. Some weeds are much harder to destroy than others. Of those which grow in gardens and among cultivated crops the Purslane (*Portulacca oleracea,*) and the Goose-foot, called Pig-weed in some districts, (*Chenopodium album,*) are, perhaps, the most difficult to kill of *annual* weeds. It is, however, only on rich land that they grow with such strength as to become a serious obstruction to cultivation. Several species of annual grasses, as they grow on almost every kind of soil that is cultivated, may be considered greater enemies to the farmer.

In damp weather weeds are more effectually destroyed by being buried, than by being left on the surface; but the former mode requires more labor. In gardens, however, the additional labor is not important. It is common to rake the weeds together in bunches, and it is only necessary to dig small holes into which they may be pressed by the foot, and covered over with two inches of earth. Their abundant juices soon cause a rapid fermentation, and in a day or two they will be totally decomposed. Only a slight covering is required, as the heat generated in the weeds will soon destroy the vitality of all in the heap.

In field cultivation, the harrow and cultivator are good implements with which to kill weeds; but to do it to the best advantage, they should be started as soon as the weeds can be seen, and kept running as often as they appear, so long as the crop will admit of their passing without its being injured. In garden culture, the scuffler or Dutch hoe, is one of the best implements. Those which have an edge on each side of the plate, and are attached to the handle by rods curving upward, are best. The operator can work it either to or from him. It is generally *pushed* through the weeds, but if one happens to be missed by this motion, it is easily cut as the tool is brought back for a new push. Another advantage of this tool is, that it does not change the general surface of the ground, and does not disturb the roots of cultivated plants, while from the manner in which it cuts the weeds, they are more likely to die than if they had been taken up with all their roots. They are also easier to work than the common hoe, and can be used with less liability of packing the soil in wet weather.

A hand-plow may be used in gardens with advantage, and we have thought it singular that such an implement was not oftener seen. It should have a wheel in front, by which the motion of the plow is steadied, and its depth regulated. The frame may be fitted to receive tools of different shape, so that the soil may either be merely skimmed, or loosened and turned over, as desired. Two men, one to draw and the other to push and guide the implement, will go over more ground in a day than they could with hoes, and for many purposes the work would be done much better. The plow itself should be made of steel, as this metal will carry a much keener edge, and do more thorough execution among weeds, and will require less force to carry it through the soil than either wrought or cast-iron.

NEW PUBLICATIONS.

The Fruit Garden; a treatise intended to explain and illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the propagation, transplanting, pruning and training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, etc.; the laying out and arranging different kinds of Orchards and Gardens, the selection of suitable varieties for different purposes and localities, gathering and preserving fruits, treatment of Diseases, destruction of Insects, description and uses of Implements, etc.; illustrated with upwards of 150 figures, representing all practical operations, forms of Trees, designs for Plantations, Implements, etc. By P. Barry, of Rochester, N. Y. Published by Charles Scribner, New-York.

This is a handsome volume of about 400 pages, very neat in its mechanical execution, and in the appearance of its illustrations. We have not yet had an opportunity of making a thorough examination of its contents, and must therefore defer a more detailed notice. It is for sale by Gray, Sprague & Co., of this city.

Notes on North America, Agricultural, Economical and Social. By James F. W. Johnston. Two vols. Boston: Little & Brown. Edinburgh and London: Blackwood & Sons.

Most of our readers are aware that Professor Johnston spent some time in the British Provinces and the United States, in the latter part of the year 1849 and early part of 1850. He delivered a valuable address at the Fair of the New-York State Ag. Society at Syracuse, and an interesting and instructive course of lectures for the same association, at Albany. These have been published, and have been extensively read by the people of this and other states. He also delivered courses of lectures at Boston and Washington. His opportunities for seeing the practical agriculture of the United States, were less favorable than they would have been if his visit had been at another season of the year. With the exception of the few days spent in this state about the time of the Fair, his time, from his first landing at Halifax, till about the first of January, was spent chiefly in New-Brunswick, having been engaged in making an agricultural survey of that Province. From Syracuse he went to Buffalo, by railroad, without delay, and from thence, by Niagara Falls he passed down Lake Ontario and the St. Lawrence to Lower Canada and New-Brunswick. He came to the States again in January; his lectures in this city were given in that month, and he left for England on the third day of April. His journey was extended as far to the south as Alexandria, Va.,—his route and mode of conveyance, in all cases, being that usually adopted by business travelers. This will show that he had comparatively little opportunity to study American agriculture, and will account for various mistakes into which he has fallen. His work is designed as a record of what passed under his observation during this visit. We cannot, at this time go into an extended analysis of it. Though designed, chiefly, for the British market, it will be found in many respects interesting to the American public, to whom we recommend its perusal. At the same time we cannot refrain from extracting the following sentence, which will serve as a *key* to understanding some passages which will be likely to attract attention: "It is unpleasant to a stranger to be always called upon to admire and praise what he sees in a foreign country; and it is a part of the perversity of human nature to withhold, upon urgent request, what, if unasked, would have been freely and spontaneously given."

The work is for sale by LITTLE & Co., Albany.

THE POCKET COMPANION, for Machinists, Mechanics, and Engineers. By OLIVER BYRNE.

The author of the above work is known as the Editor of the Dictionary of Machines and Mechanics—Professor of Mathematics in the College of Civil Engineers, London, &c. The publishers are Messrs. DEWITT & DAVENPORT, Tribune Buildings, New-York. It contains a great amount of information of the most valuable kind, in reference to natural philosophy, mechanics, &c.—among which may be mentioned an Almanac for all time—past and future; a universal Thermometer, showing the sensible heat of many substances according to the three most approved thermometers; the most accurate Planetary tables; tonnage of Ships; the thickness of Water Pipes of Iron, Cast Iron, Copper, Lead, &c.; dilation of Solids by Heat; Wind and Windmills—pressure of the wind moving at given velocities; the Weights of different countries compared; Torsion, Twisting, and Cohesive Powers of Bodies; Alloys and Compounds; the Retardation of Railway Trains; Mechanical Powers, &c. &c., with many other things which we cannot notice here. It is for sale by P. L. GILBERT, of this city.

A PRACTICAL TREATISE on the Construction, Heating, and Ventilation of HOT-HOUSES; including Conservatories, Green-Houses, Graperies, and other kinds of Horticultural Structures; with practical directions for their management in regard to Light, Heat, and Air; illustrated with numerous engravings, by ROBERT B. LEUCHARS. Boston: JOHN P. JEWETT & Co.

This book is from the pen of a highly intelligent practical gardener, whose able contributions to the Horticulturist and other periodicals, have made him favorably known to the public. Mr. LEUCHARS has produced the best work on horticultural structures that has yet been offered to the American reader. His remarks in relation to constructing, lighting, heating, and ventilating hot-houses, based as they are on his own experience, are particularly valuable, and will be of great benefit to beginners in this branch of horticulture. It is a handsome volume of 366 pages, and is sold at the low price of one dollar.

THE WESTERN AGRICULTURIST.—This is the title of a monthly journal devoted to agriculture, published at Columbus, Ohio, edited by Professor W. W. MATHER, Corresponding Secretary of the Ohio State Board of Agriculture. Prof. M. has been favorably known to the public as a geologist of high standing, and his general knowledge of the sciences which relate to agriculture well enable him to impart much useful information through the periodical placed under his charge. Each number of the work contains thirty-two pages octavo. It is published by J. H. RILEY & Co., at one dollar a year, in advance.

ANSWERS TO INQUIRIES.

RAISING CHESTNUT TREES.—In answer to our request for information on the subject of raising chestnut trees from seed, we have received several communications, the most essential portions of which will be given to our readers in time to guide them in regard to the planting, which cannot be done till the next crop falls from the trees.

IRRIGATION.—"Have any of your correspondents had experience in irrigating side-hill land, of a light loamy texture, in winter and spring?" C. S., Shelburne, Mass. We think there can be no question that the irrigation of such land in *spring* would be beneficial, but should have doubts as to its expediency in winter. (See Col. Lincoln's communication on this subject, page 55 current volume.)

FIELD PEAS.—A. B. It is best to sow them as soon as the soil is in condition to be worked. Three bushels to the acre is the quantity usually preferred for seeding. They may be worked in with the cultivator or harrow, or buried with a small plow. The Canada field pea, and the Golden field pea, are considered the best varieties. The pea makes a valuable crop for early feeding, coming in before any other crop. As soon as the peas are fairly filled, the vines may be cut and fed to hogs in pens; or the hogs may be made to harvest the crop for themselves by fencing off, by boards or hurdles, a small part at a time, and allowing the hogs to gather all the peas before another piece is enclosed.

LEACHED ASHES AND MUCK.—"Will leached ashes that have laid for fifty years, and muck from a cedar swamp, make manure for grass-land and other land? The muck is of excellent quality. Would it be profitable to draw it on land by paying an Irishman $10 a month? distance not over fifty rods." The value of the ashes depends much on the situation in which they have laid for "fifty years." If they have been much spread about, and have been thoroughly leached by the rains, there is not, probably, much potash left in them—and potash is the essential element in decomposing the peat. But if, as you say, the peat "is of excellent quality," it may be worth applying as manure, by itself. But our advice would be to make three experiments. 1. Take equal quantities (say a cart-load each) of the peat and old ashes and mix intimately together, in a heap. 2. Put two loads of peat in another pile. Let these two piles lie till fall, and then apply them to equal portions of the same quality of soil, as a top-dressing for grass or wheat. 3. Apply the same quantity of the old ashes to the same quantity of land at the same time. Govern your future action by the results obtained in these cases. You can also try other experiments. This will be better than to hire the "Irishman at $10 a month," for much length of time, specially to do the work you propose. You will find it *will pay* to put the peat or muck into your barn-yards in sufficient quantity to absorb the urine and the liquids from the manure.

PAVING BARN-YARDS.—If your yards have an open, loose soil, paving or flagging, laid on a coating of clay, will prevent the waste of the liquids by soaking into the ground.

PLAN OF A BARN.—Various queries by W. D. S., Westchester, Pa. "In building a barn on a hill-side, would it be policy to have a cellar under it for keeping manure?" Yes. "Which would be best, without reference to cost, a stone barn or wooden one?" Stone, on account of durability. "Will a barn built of stone, two stories high, with a cellar under it, be liable to fall, from the great height and weight of the walls?" Not if the work is properly done, any more than a house would that has a cellar under it. "Will manure keep in good order in a cellar, or under a tight roof?" There can be no better place for manure than a cellar—the low temperature and moisture, preserving it from waste by fermentation. Horse-manure, if mixed with a large quantity of straw, and if very dry, may heat and waste. If horses and cattle are both kept in the barn, mix the manure of each together by spreading, and it will not heat too much. It is a common practice to keep swine under a barn of this kind, on the manure; they mix it together and compress it sufficiently to prevent violent fermentation. Simply a tight roof, or even a close room, is not as good for keeping manure as a cellar, unless care is taken to keep it moist. If it becomes dry, it will lose its ammonia, even if it does not actually *heat*. In such a room, therefore, there should be some means of keeping it moist. Water may be turned on by a spout, from a pump or aqueduct. "If there is a cellar under the barn, how long will the floor last?" In some instances it has lasted twelve to fifteen years. There is no need of letting cattle run on the manure to tread it, if hogs are kept on it. (See Cultivator for June 1847, and November 1850.)

DRAINING FOR GRAPEVINES.—J. T. C., Pikesville, Md. If your soil is, as you say, retentive of moisture, we should say, decidedly, that drainage would be beneficial to the production of grapes.

GROUND MICE.—"Can you give me any plan by which I can rid my garden of ground mice?" S. M. T., Glen Cove. These animals can be destroyed by arsenic, in a similar way to that taken to kill rats by the same substance. That species of mice, however, feed mostly on grass-roots, vegetables and fruits; hence apples, potatoes, or something of that nature, would be most suitable for baiting them with the poison. Perhaps some one may know of a better mode of killing them. If so, they will confer a favor by communicating it.

PRACTICAL WORK ON AGRICULTURAL CHEMISTRY.—"A SUBSCRIBER," Tompkins county, N. Y. If you have not Prof. Norton's "Elements of Agricultural Chemistry," we advise you to get that in the first place, and if you then require some other book on the subject, get Johnston's "Lectures on the Applications of Chemistry and Geology to Agriculture." They are both for sale here—the former at 50 cts., the latter at $1,25.

BEST STRAWBERRY.—"A Subscriber." Burr's *New Pine* has received the first premium of several Horticultural Societies, as the best variety, quality, size, and productiveness considered. It is also a firm fruit and will bear handling without injury.

REPUBLICAN EXTRAVAGANCE.—The editor of the Home Journal tells us that on New Year's day, he saw ladies with "shawls, each one of which was the price of a farm; bracelets as costly; and minor articles of dress, each of which cost more than ten life-memberships to a Bible Society."

Mediterranean Wheat.

This wheat was introduced into the country chiefly on account of its peculiarity in resisting the attack of the Hessian fly. Its value in this respect arose from the sheath adhering very closely to the stem, which prevented the young worms from obtaining a lodgment where they would injure the plant. Besides this advantage, however, the Mediterranean wheat proved to be valuable in this country on account of its escaping the wheat-midge ("weevil.") Its exemption from injury from this insect is owing to its earliness—the grain being generally out the way by the time the fly makes its appearance. It is a variety that generally yields well, and is heavy in proportion to its measure. But an objection to it has been, that the millers were unwilling to pay as much for it, by four to six cents per bushel, as for the *white* wheats—the Mediterranean being a light red variety. Some experiments show that this wheat is not only of a highly nutritive quality, but that it is capable of making excellent flour. WM. CRAIG states in the *Michigan Farmer* that he had sixteen barrels of superfine flour made from seventy-five bushels of this kind of wheat being at the rate of a barrel to four bushels and forty-one pounds. He says he sold some of it to a respectable baker in Detroit, without letting him know what kind of wheat it was made from, and requested him to say how he liked it. In a few weeks he received a line from the baker, saying—"The flour I like very much—how can I get more of it? *I think it is the best I ever had.*" Mr. C. says a neighbor told him that it took as much liquid to "wet up" two loaves from the flour of Mediterranean wheat, as it did to make three loaves from the white-flint.

To Farmers' Boys.

EDS. CULTIVATOR—I am glad to see that you are willing to devote a portion of your excellent publication, for the benefit of farmers' boys. With your leave I would present the following, for the attention of your youthful readers:

For what reason is it that you farmers' boys, try so hard to come from your pleasant abode on the farm to the city, where all is anxiety and trouble?

Would you be strong? go follow up the plow;
What if it brings the sweat upon thy brow?
Would'st live in the city? nothing there can charm;
But come and live, in health and peace, upon a farm.

Boys, your future calling is one of the most healthy and pleasant of any. It is the most beneficial to mankind, and yet it is as little known (as a science) as any one business. You now learn the practice, but it would be well for you to learn the science also, of agriculture. In the absence of agricultural schools, the best way to learn this science, is to obtain *and read* some of the best agricultural books. "But this is Book Farming," methinks I hear you exclaim. Let us see if *book* farming can be useful. It is certain, that if any one of you should go to an elderly farmer, and ask him for information in regard to some subject connected with agriculture, he could, without doubt, give you much good advice, the benefits of which experience has taught him. This advice could easily be written and sent to the papers, where it would benefit not only yourselves but many others. It is true that the writers of books often make great mistakes, but it is not very common for a farmer to make a mistake in giving advice; thus a farmer may deprecate corn cobs, either steamed or ground, as food for cattle or other live stock, while they are in reality an excellent feed. This tirade against book farming, therefore, must fall to the ground, for none but an ignorant or thoughtless person could sustain such an idea. One of the first things for you to learn is, what the different soils, crops, and manures are composed of, and this is to be done by means of such books as Johnston's Catechism of Agricultural Chemistry and Geology, Johnston's Agricultural Chemistry, Norton's Elements of Scientific Agriculture, and numerous others. Perhaps you say, "what is the use of all this science?" I answer, by agricultural chemistry we can find the component parts of a soil; we then find the component parts of the crop we wish to raise; we can then see what the soil lacks, to form the crop in perfection. Suppose, for instance, we find that there is not enough sulphuric acid in the land, why then we must find what manure will supply the deficiency. We then find the analyses of the different manures near at hand; some have very little or no sulphuric acid, but when we find the analyses of gypsum or plaster of Paris, we perceive that it is composed of 40 lbs. of sulphuric acid to 28½ lbs. of lime. In 68½ lbs. of gypsum, therefore, we find that this would be a good application. It is necessary that a farmer should know the composition of these substances. This can be illustrated in this way. Suppose any of you should turn baker, you would have to learn what the different kinds of cakes, pies, &c. were composed of; you would have to learn the proper proportion of each ingredient. In the same way you should know what all crops are composed of, as I said before, as well as manures and soils. The baker also, knows that if he would continue to make pies, cakes, &c. he must replenish his stock of flour, sugar, eggs, &c., the different ingredients of which they are made, for it would be folly for him to suppose that he could keep on making cakes, pies, &c., without replacing those substances into his flour barrel, sugar barrel, &c. In the same way a farmer must not expect to raise a crop without he returns the substances he takes from his land in the shape of crops. Now I think you can plainly see that chemistry is of great use to the farmer.

In learning from books you may come to something you cannot understand. If you do find anything you cannot comprehend, the best way for you to do, is to write to the editors of this paper, and they will probably either print it for some other person to answer, or else will answer it themselves. Boys, you can try experiments of various kinds. Thus, for example, your fathers often discuss the merits of thick and thin planting. It would be a good plan for you to get your father to allow you a small patch of ground, and then you can thoroughly pulverize the soil and put the proper manure on; then divide the patch into two equal parts; on one half you can sow wheat, barley, oats, or rye, broadcast, and on the other part you could sow it in distances of from two to six inches apart, according to your choice. If your patch is large enough you might try all the distances from two to six inches, as well as broadcast; but be sure to have all the divisions of a size, and you should be particular to give the grain in all the lots exactly the same treatment. When ripe, keep the lots separate and thrash them separately, and then measure each lot, and note down the particulars of the distance apart that the seed was sown, the size of the patch, the quantity of and kind of manure, also the quantity of seed obtained; then write the results for The Cultivator. These experiments can be varied in many ways.

In reading Johnston's Catechism I find that a soil "may be barren though it contains all the substances which plants require, if it contains a very large proportion of one, such as oxide of iron, which in great quantity is injurious to the soil." Then I would inquire what I should do to improve a soil in this condition? I find in the above work that "I should thorough drain and subsoil it, that the rains might sink through and wash out the injurious matter, and should lime it if it required lime." I will ask you, boys, if, when the rain washes out this injurious matter, it will not also wash out the good matter of the soil? I would be much obliged if some one would be kind enough to answer this question.
One who intends to be a Farmer.

INVITATION.

BY SYLVANUS.

"If a man would eat, drink, die, and be forgotten, let his dwelling place be in the *city;* if he would live, love, and be remembered, let him speed him to the *glens of the mountains.*"—M'Donnough.

From the city's strife and din, all ye weary Toilers come,
From the prison house of Care with its never ceasing hum,
From the moral desert flee to the beautiful and free
Land where Innocence and Glee, dwell together evermore.

To the land of beauty come, where in summer glades at eve,
Fairies sing with sylvan gods, while the balmy zephyrs grieve;
To the land of hill and dell, where the Muses love to dwell,
And in numbers sweet to tell tales of beauty evermore.

Where the tiny wavelets sing songs of joyfulness and glee,
While the birds on buoyant wing chant a chorus wild and free;
Where in soft Elysian bowers zephyrs woo the budding flowers,
Crowning with delight the hours, gliding stealthily away.

Here, in Nature's wide domain, Love and Beauty ever dwell,
Making bright each lonely cot, lighting up each sylvan dell;
Here before the face of Ill, Autumn's shade and Winter's chill,
Summer flowers are blooming still, shedding fragrance evermore!

Then ye toiling careworn Millions, leave the city's strife and din
Nature's storehouse lies before you, Nature bids you enter in;
Peace and plenty ye shall find, balms to soothe a wearied mind,
Care and Sorrow leave behind, Sin, Despair, and brooding Ill.

Come ye Toilers worn and weary, taste enjoyment pure and free,
Smiling Health awaits to greet ye when the brooklets sing with glee;
Where Aurora's golden train, flashing glory o'er the plain,
Waketh many a thrilling strain, bright and joyous, pure and free!

Then arise ye Sons of Labor, time shall bring thy sure reward,—
Soon the world shall own thee ruler, sovereign prince, and rightful lord;
Soon, for lo! thy morning star riseth proudly from afar,
Soon shall thy triumphal car crush Oppression's bloody throne!

April 19, 1851.

"Worm Fences."—The common worm rail fence, causes snow to accumulate in the form of drifts, in large bodies. We notice that at a late discussion of the East Bloomfield Farmer's Club, (reported in the *Rural New-Yorker,*) Mr. Ira Peck estimated that the damage done to the wheat crop by the snow-drifts formed by those fences, was equal to one acre in thirty of all the wheat sown in that section.

NOTES FOR THE MONTH.

Acknowledgments.—Since our last, communications have been received from Dr. M. Barnes, Prof. J. P. Norton, Youth of Bridgewater, A Subscriber, Sylvanus, A Subscriber from Hannover, W. D. Sugar, W. C. A.

Books, Pamphlets, &c., have been received as follows: Notes on North America, Agricultural, Social and Economical, by Prof. J. F. W. Johnston, 2 vols. from Little & Co., booksellers, Albany.——Reports of Regents of the University, and of the Commissioners in charge of the publication of the Geological Reports, from Dr. T. R. Beck.——Proceedings of the Vermont Fruit Grower's Convention.

Our Premiums.—We have sent our dollar Premiums to all those who have informed us as to the particular book they wanted. It will be recollected that all Agents who have sent us fifteen or more subscribers for our current volume, except those whose names were published in our April No., as entitled to higher premiums, are entitled to Thomas' American Fruit Culturist, or such other dollar book as they may select. Those who have not received their books, are informed that we shall be glad to send them as soon as informed as to the particular book desired.

Messrs. Morris' and Vail's sales of Stock.—It will be recollected that the sales of these gentlemen take place this month—Mr. Morris' at Mount Fordham, Westchester county, N. Y., on the 24th, and Mr. Vail's at Troy, on the 26th. The particulars in regard to the herds of these gentlemen, will be found in their respective advertisements in this journal, and in their catalogues, which may be had on application to them, or at this office. These gentlemen have been at great expense in establishing their herds, and each have animals of great value. We shall look for large gatherings of farmers and stock raisers on the occasions alluded to.

Location of the next Fair of the New-York State Agricultural Society.—We learn from John Delafield, Esq., the President of the Society, that arrangements have been made for the occupancy of the "Rapids tract," so called, for the coming State Fair. Mr. D. says—"The ground is beautifully situated on the margin of the Genesee river, elevated about 100 feet above the stream, affording a beautiful view of the windings of the river. It is about a mile and a half south from the center of the city, (Rochester,) presenting a good firm sod, and an area of twenty-five acres or more." The Fair will be on the 17th, 18th and 19th of September.

Sulphate of Ammonia as Manure.—A remarkable fact in regard to the operation of this substance, is stated in a late English work. It was used as a top-dressing for grass-land, at the rate of two hundred pounds per acre. Its effects on the growth of grass were highly favorable; but its effects on the *quality* of the herbage were such that the *dairy farmer* is cautioned against the use of the substance on pasture land. It is stated to flavor the milk in such a way that it cannot be used; that the cream cracks, and will not mix with tea, and that the butter and butter-milk are disagreeably flavored.

National Park at Washington.—We are gratified to learn that the large tract of public ground, (about 140 acres,) on which the Smithsonian Institution and the Washington Monument are located, is about to be converted into a public park, under the direction and in pursuance of a plan reported to the Government by A. J. Downing, Esq., the well-known author, and editor of the Horticulturist. From Mr. Downing's good taste, sound judgment, and intimate practical knowledge of effective planting, we have reason to believe he will perform this duty in such a manner as to render this National Park one of the most attractive objects at the seat of our National Capitol. The climate of Washington is most favorable for the object—as it will permi the introduction of a large number of the most highly ornamental trees and plants, which would not stand the climate of any section of this state.

Professor Norton's Lectures.—We would invite the particular attention of young men who intend to become farmers, to Prof. Norton's Lectures on Scientific Agriculture, an advertisement in reference to which will be found in this number. The department to which Prof. N. is attached, belongs to Yale College; but those who attend the lectures are not necessarily connected with any other department of that institution, and no previous preparation is required. The principal points to which the lectures relate are as follows: "The substances of which the plant, the soil, and the animal consist, are shown and described. The cultivation of the soil, the qualities necessary to its fertility, the means of improving it by drainage, the composition and effect of the manures applied, are all topics of great interest, and naturally lead to the constitution of the crop, the theories of rotation, &c. The remaining department is that of the animal, the character of whose parts is given, and with this the various theories of fattening and feeding. In this part of the course the products of the soil are also examined, with a special reference to their nutritive and economical value."

We have before expressed our opinion in relation to Prof. Norton's abilities to give instruction on the applications of science to agriculture. Many of our readers have been long familiar with his writings which have appeared in this journal, and of the thousands who have read them, we have never heard any other expression than that of warm approbation. He has a happy faculty of adapting knowledge to useful purposes, and of rendering what, in the minds of some men is mysterious and uninteresting, plain and attractive. It is this, in connection with the self-evident utility which characterises his writings, that renders them so highly prized by the practical farmer. It will be seen that Prof. N. receives students at any time.

Budding Peach Trees.—Mr. C. D. Bent, of Hannibal, Oswego county, N. Y., informs us that scions of peach trees may be kept from the usual time of cutting them, till the bark of stocks will start, say in June,—and insert the buds in the usual way of budding. He states that they will grow as much the same season, as if they had been inserted the previous autumn. It is, of course, necessary that the scions should be kept in a cool and rather damp place.

Importation of Sheep.—Wm. R. Sanford, Esq., of Orwell, Vt., has lately returned from Europe, whither he had been for the purpose of procuring sheep which he deemed suitable for improving the Merino flocks of the United States. After a critical examination of all the flocks of note in Spain, France, and many of those of Saxony and other German states, he made a selection of twenty-five in Silesia, and two selections from flocks in France. In making his examinations and selections in Germany, he was accompanied by Chas. L. Fleichmann, Esq., American consul at Stuttgard, whose intimate knowledge of the country, and acquaintance with the most distinguished sheep-breeders, was an important aid. We had the opportunity of seeing the lot purchased in Silesia, as Mr. S. passed here on his way to Vermont, and were well pleased with them. They are mostly of only one year old, and were, from the effects of their long confinement not in the best condition to *show;* but they have generally good forms, are uniform in appearance, and remarkably well covered with wool on all parts of the body. The staple is finer than that of most Merinos in this country, and at the same time the weight of fleece in proportion to the carcass appears large, especially in the ewes. The wool is *oily* but not *gummy*, and Mr. S. states that the average of the 600 head belonging to the flock from which these were selected, has been four pounds per fleece, clean washed. They are represented in the certificate received by Mr. S. of the breeder, as being *purely* descended from the Infantado Nigretti flock of Spain, a selection from which was taken to Silesia in the year 1811. The sheep purchased in France, are expected to arrive shortly. We understand that Messrs. E. Hammond, of Middlebury, R. T. Hall, and Wm. Remilee of Cornwall, Vt., are associated with Mr. Sanford in these importations. Mr. S. informs us that he has purchased a Devon cow and heifer of Mr. George Turner, Devonshire, England, which will come to this country in the course of the season.

Mechanics' Institute.—This institution was founded in New-York, in 1831. Its object is the improvement of the mechanical classes by means of lectures, holding conversational meetings, debates and discussions, public exhibitions of specimens of mechanical productions, &c. It occupies a large building—comprising four floors, each containing 3,500 square feet—at the junction of Division-street and the Bowery. It has a large library and reading-room, and is fitted up on the general plan of the Polytechnic Institution in London. A steam engine has been erected for the purpose of showing the operation of new machinery. The exhibition was opened on the 15th May. It is designed to keep the exhibition constantly open, and it will afford an interesting and attractive place to persons who wish to obtain information in reference to mechanical philosophy. For particulars apply to Thos. C. Dodd, Actuary.

York County, N. B., Ag. Society.—This Society will hold its next show at Fredericton, on Tuesday and Wednesday, the 14th and 15th days of October next. Very liberal premiums are offered, embracing all kinds of live stock, and the principal agricultural products of the province. We are glad to see that the agriculture of this section is improving.

New-England Poultry Society.—By the second annual report of this society, it appears to be in a flourishing condition. The treasury has a balance on hand of upwards of $200. Vigorous preparations are in progress for another exhibition at Boston in November next, and the report gives a full account of the last. Attached to the document are several pages of cuts of fowls. Some of these represent well-known and valuable varieties; others belong to *newly invented* sorts which were brought out at the last show,—as "Imperial Chinese," "Wild Indian Mountain Fowl," "Bengal Mountain Game Fowl," "Burrampooter Fowl," &c. They are from the same *manufactory* as the "Plymouth-Rock Fowl," "Fawn-colored Dorking," "Yankee Game," "Pride of India Fowl," and "South American Eagle Fowl," which were advertised a year ago. From the ugliness of some of the figures, it might be supposed they were mere caricatures; but persons who have seen the *originals* will have no hesitation in admitting that they are quite truthful portraits, and the sight of them may be a useful warning against being deceived by the names.

Fish Guano.—It will be seen that Messrs. Emery & Co. offer for sale an article under this name, which, from all we can learn in regard to it, is likely to become of great importance. It has been very carefully analysed by Prof. Norton, who deems it of excellent quality—"equal in value to medium qualities of [imported] guano." Mr. Chas. Robinson, President of the New Haven county Horticultural Society, states that he tried it last year, on various plants, and its results were fully equal to Peruvian guano. We think it should have a careful trial on various soils, and should its effects be such as may be expected, it will have a great advantage in cheapness, over imported guano. Should the demand render it an object, it can be produced in very large quantities for future years.

Morgan Horses.—Mr. N. B. Hogg, of Newark, Ohio, has purchased of Mr. Wier, of Walpole, N. H., a mare and a three year colt, both got by the well known "Gifford Morgan." The mare, we understand, is the dam of the fine horse "Morgan Hunter," owned by Messrs. Gilbert & Ackley, of East Hamilton, Madison county, N. Y. We have not seen Mr. Hogg's horses, but have been informed that they show many of the good points of the Morgan stock, and we cannot doubt that they will be highly useful in improving the horses of the section to which they have been taken.

Extraordinary Cow.—The Hereford cow which won the first prize at the last Birmingham show, was slaughtered a few months since, and her weight, as given in an English paper, was as follows: Live weight 2,356 lbs. Dressed weight—four quarters, 1,695—tallow, 198—hide, 85—total, 1,978 lbs. The heart weighed 7 lbs. and the head 32 lbs.

Devon Oxen.—Oxen are less worked in English farming than formerly, but Devons, and in some instances Herefords, are still used to some extent. In a late report of the Agriculture of West-Norfolk, it is stated that Mr. Hudson, of Castleacre, works sixteen Devon oxen, besides several pair of horses. The oxen work in pairs, the same as the horses, "and walk quite as quickly, and in either plow or harrow, will get over as much ground as the horses—each plowman drives his own pair."

The Great London Exhibition.—Our latest accounts from this center of attraction, are of the date of May 3d. The "Crystal Palace" was opened on the first by the Queen in person, in the presence of 30,000 spectators. The arrangements appear to have been made in good order, and the display is represented to be magnificent. The packages which were received from foreign countries up to date of 28th April, amounted to 8,938, and 1,144 from British colonies. "The United States furnished 878 of the former; Belgium 1,039; France 2,913; Austria 631; Prussia 1,059; the remainder of Germany, 653; Italy 215; Holland 225; Portugal 105; Russia 250; Spain 228; Switzerland 152; Egypt 41, and Tunis 202. Only two packages have yet arrived from Turkey, and one from Persia. The delay in the arrival of the steamer from Constantinople is unaccounted for. China sends 231 packages, and Hong Kong 19; India 436; Australia and the neighboring colonies 126; the West Indies 52; the North American colonies 381; Africa and the Cape of Good Hope 45; and Malta 49."

The department of the show belonging to the United States, seems to be highly creditable, and is said to attract much attention—especially in reference to the *utilitarian* character of the articles. Our carriages and agricultural implements are particularly spoken of in terms of praise. Mr. Johnson, the agent from this state, and several agents from other states and associations were at London at the above date, but no communications particularly describing the exhibition have been as yet received from them.

New Edition of Dana's "Muck Manual."—We are glad to learn that a new and enlarged edition of this useful work is soon to be published. The former editions were exhausted, and we have heard many calls for it which could not be answered. It contains many directions in regard to the use of peat or muck as manure, which have been of great value to many farmers. By the advertisement of Mr. Walker it will be seen that he has the work for sale.

Large Produce of Wool.—We are informed that Messrs. E. T. & J. A. Miller, of Hanover, N. H., had in 1850. 193 fleeces of wool from Merino sheep, which, when sold, weighed in the aggregate, 867 lbs., or an average of four pounds seven ounces and a fraction per fleece—and brought the aggregate sum of $379.14—or an average of $1.96 per fleece. Also, that John Cleflin, of Lyme, N. H., has a flock of sheep which gave an average yield the same year, of four pounds ten ounces to the fleece, and sold for an average amount of $1.98 per fleece. We are not informed who was the purchaser of these lots of wool, but it is said "they were sold without the advantage of being sorted at a wool depot."

Vermont Sheep in Virginia.—We are informed that Mr. Albert Chapman, of Middlebury, Vt., lately sold ten Merino ewes and a ram to Mr. Theodore N. Davidson, of Culpepper county, Va. We understand that the ram was bred by Mr. E. Hammond, of Middlebury, and that the ewes were bred by Mr. Chapman. The flocks of both these gentlemen are well known as among the best in Vermont,—the sheep being generally of good constitution, and producing a good weight and quality of wool.

Eggs of Choice Fowls.—We have received from Dr. E. Wight, of Boston, some eggs of his very superior Dorking fowls; also from Mr. A. A. Andrews, of Boston, eggs from his "White Shanghae" fowls, which we regard as among the very *best* of the larger class of fowls that have been exhibited at the Boston poultry shows, or that we have ever seen elsewhere. We spoke of them in our December No. for last year.

Messrs. W. G. & G. A. Young, of Kirkland, Oneida county, have purchased of Mr. Nahum Knight, of Baltimore, Vt., a horse got by "Green Mountain Morgan." He is a muscular, short-jointed horse, apparently of good constitution, strong and hardy. Messrs. Young have certificates in regard to the value of his progeny, from several respectable gentlemen in the neighborhood where the horse has been kept.

Hereford Cattle for Otsego County.—We learn that Mr. J. A. Davis, of Morris, Otsego county, has purchased of Mr. Edward Wells, of Johnstown, a bull and cow of the Hereford breed. They are fine animals, entirely of the stock imported from England by Mr. Sotham, and we are glad they have gone into good hands, in one of our best breeding districts. They will prove a valuable stock.

Deep and Shallow Draining.—Gen. Cushing stated at one of the Boston Agricultural meetings, that when draining was first introduced into Scotland, the drains were made about one and a half to two feet deep, and about 18 feet apart. After 10,000 miles were laid, it was found that they were not sufficient. Then they were made from two and a half to three feet deep, and forty feet apart. This system cost less, and was more efficient. Greater depth with greater distance, was again unfavorable.

Brush Drains.—Where stones are scarce, and tiles not easily obtained, brush drains are an excellent substitute. They are, in fact, the cheapest of all kinds of underdrains, on account of the rapidity with which they may be filled. The brush, being excluded from the air, will last a long time. Judge Buel's were found after 20 years, apparently as good as when made.

Extensive Farming.—Downing says that a large part of the estate of the Duke of Bedford is let out to tenants, but still he retains a large portion under his own superintendence, and pays, himself, more than 400 laborers weekly throughout the year. Above fifty miles of drain have been laid, annually, on his grounds, for several years past.

Southern Prices of Cattle.—Dr. Lee states that ordinary cows sell in Georgia at from $6 to $10 per head, and extraordinary ones bring readily from $50 to $150 each. "We saw a native cow sold at the latter price at the [Georgia] State Fair in 1849, not so good as we have bought in Erie county for $13."

Large Crop of Hay.—Jeremiah Ryan, of Putney, received the premium of the Windsor County (Vt.) Agricultural Society, for the best crop of hay, the amount being *five tons*, including the second crop or after-growth.

Albany Prices Current.

Albany, May 14, 1851.

The markets for produce of almost all descriptions, have opened very active, and in Breadstuffs the quotations show a gradually declining market, influenced altogether by the large receipts from this State and the West. Flour, for the common descriptions of State and Western, rules very low, with a prospect of a still further decline. Wheat has followed Flour, and the anticipations that Genesee from its relative scarcity would maintain its price, have not been realized. Corn continues in large supply, and quotations since the opening of the canal have steadily receded; the receipts in prospect are very large, and it is not easy to perceive how present prices can be maintained, in the absence of a shipping demand, which at present is by no means active, and in no respect equal to the increased receipts over the corresponding period last year. Provisions of all kinds, barrelled and cut, notwithstanding the advancing rates of quotations, continue in good demand; the retail trade here has been very active.

The prospects of the growing crops, in all parts of the Union, with some slight exceptions, are very good.

Flour.—The sales of flour during the month have reached 28,000 to 30,000 bbls., principally to the city trade and to Eastern and river buyers. Quotations under the influence of large receipts, have gradually declined, and the market closes heavy, with a downward tendency, at $4a$4.12½ for mixed and straight Michigan and State,—$4.25a$4.37½ for Northern and Southern Ohio and fresh ground State—$4.50a4.62½ for Genesee,—$4.75a$5 for fancy Genesee and Extra Ohio, and $5a$5.25 for extra Genesee. The steamship Cambria with advices from Liverpool to 3d inst. quotes American flour steady at 17s. 6da19s., for Western Canal,—18a20s. for Canadian and 19a20s. for Ohio. These are very low figures, lower than they have been for years.

Grain.—The supply of prime Genesee wheat in store at the opening of canal was very limited, and the arrivals since the opening have been very light; the aggregate is 33,000 or 34,000 bushels prime Genesee, ranging from 118a115c; at the lower figure a sale was made yesterday; the ordinary descriptions of Western are unsaleable in this market, and our sales include only 4,800 bushels at 101c. for Michigan, and 103 for a parcel of ordinary Genesee and Mediterranean mixed. Rye has been in demand beyond the supply, and prices are firmly maintained; sales 20,600 bushels, at 72a73c. Oats have been in limited supply, and a good demand has carried the market from 44a45c. at the opening, to 48, at which the market yesterday closed firm; the sales are 118,000 bushels. Corn has been in very active demand for the East, and to fill contracts, and prices at the opening of the canal were quoted at 62a63c. for Yellow round, and 62 for Western mixed, which under the influence of large receipts present and in prospect, and the unfavorable European advices, closed yesterday at 57c. for Yellow mixed and round White, and 55½ for Western mixed, the market showing more steadiness than it had evinced for some days; the agregate sales have been 375,000 bushels. In Barley we have not much to notice; sales 7,000 to 8,000 bushels in lots, at 106a110c.; sales have also been made of the new crop to the extent of 50,000 bushels, on private terms. Malt is in good demand at $1.25 with sales.

Feed.—Owing to the advancing quotations in oats, and a moderate supply, has been well sustained; sales 40,000 bushels at 18a24 for second quality, and 100a106¼ for middlings.

Hops.—A fair retail demand: sales 80 bales old and new, at 30c.

Wool.—The stock here has been exhausted for some time; we notice sales 4,000 lbs., at 36½ for No. 1, and 40c. for superfine.

Whiskey—is in steady demand beyond the daily supply; the sales are 600 to 700 bbls. at 23a24c. for S. P., and 23 for Ohio. closing with a bare market, and nominally 23¼ and 23½c.

Seed.—There has been a fair retail demand at 10½c for large clover, and 9a9½ for medium. Timothy ranged from $2.25a$3.12½.

Provisions.—The sales include 100 bbls. prime beef city packed at $7; 280 tierces Western Hams in pickle at 8½a9c., 16,000 lbs. Western Smoked Shoulders at 7½c., 100 bls. do. in canvass at 7½c., and 28 bbls. Lard at 10c. The retail demand has been very good and quotations may be given at $16 for mess Pork, $14 for do. prime, $10.50 for mess Beef and $8.50 for do. prime. Smoked Hams, 10c., do. Shoulders, 8c.; Smoked Beef, 9c.; Lard, 10½c.; Butter, 10a12c. for old State and 14a16c. for new do.; Cheese, 7c.

Locust Borer.—A correspondent of the Genesee Farmer says that he destroyed the borer and restored a favorite tree, by thrusting smoking tobacco into the holes made by the insect, by means of a knitting needle. The operation was repeated in successive years.

Comparative rotting of Potatoes.—According to the experiments of S. W. Cole of the New-England Farmer, the different varieties of the potato rotted the past unfavorable season, in the following proportions:—

Chenango or Mercer, seven-ninths of the crop rotted.
Carter, five-sixths.
Snowball, (resembling Carter,) all.
Early Purple, one-seventeenth.
Hall's Early, one-half.
Early Worcester or Riley, one-third.
Buffalo Pink, two-thirds.
Wait's Long, four-fifths.
Long Red, Merino, or Long John, two-thirds.
Dear, Veto, or Abington Blues, seven-elevenths.
Black, or Black Chenango, one-fifth.

The Early Purple very nearly escaped, probably from its great earliness.

Method and Order.—Habits of order and discipline result in the highest advantage to rural cultivation, even when brought from far different pursuits. Pope said of Lord Peterborough,

> Even he whose lightnings pierced the Iberian lines,
> Now forms my quincunx, and now ranks my vines;

and Washington when called from Mount Vernon to the presidency, left full directions to his manager in writing, and required of him a weekly report, giving a minute account of all the operations of the farm, the appearance of crops, condition of animals, &c. If habits of discipline as applied to the art of destruction, may be thus turned about to good account, how much better would it be to cultivate discipline as directly applied to the great art of peace, the cultivation of the soil.

Cranberries on Upland.—A writer in the *Massachusetts Plowman* thinks the cultivation of this fruit on upland or dryland, cannot be carried on with advantage. He says—" It is evidently a fruit that delights in a wet location, and it is to be doubted if it has that nature to live, flourish, and bear equally well in a dry location. Even in the last *wet* season, I found this fruit in a more flourishing and perfect condition in the lower parts of the meadow, than on the higher.

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.
June 1—4t. G. H. BARR.

FARM FOR SALE.

THE subscriber offers for sale 350 acres of land, situated four miles north of Chimney Point Steamboat Landing, on the east shore of Lake Champlain, and ten miles from the Vergennes Railroad depot. The farm is well watered, and has a sufficient quantity of Pine timber to keep it in fence for many years, and a surplus of fire wood. The house is comfortable; the barns, six in number, some new and all in good repair. There are two orchards, which produce grafted fruit of the best varieties. The farm will recommend itself to any one who will take the trouble to inspect it. Also, for sale one thousand good Merino sheep. JONAS N. SMITH.
Chimney Point, Vt., June 1, 1851—2t.

BLACK HAWK.

FOR SALE at Ticonderaga, Essex county, New-York, a desirable Stallion Colt, sired by the justly celebrated original Black Hawk, now owned by Messrs. Hill, Bridport, Vt. Color, dark brown, black legs, mane and tail—will be three years old in June, is 15¼ hands high—weighs about 1000 lbs.—strongly made and well proportioned—kind to handle, broke to harness, and shows good action. Those wishing to purchase can examine said colt at the stable of the subscriber. WM. E. CALKINS, Ticonderaga, May 26—1t.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.
Fresh Garden Seeds, a large assortment of the various kinds. Also, Field Seeds.
Lawn and other grasses.
Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c.
Guano, *Bone Dust*, *Poudrette*, and other fertilizers
Prompt attention given to all orders by letter or otherwise
March 1—tf.

Morgan Hunter and Morgan Chief.

MORGAN HUNTER will stand the coming season at the stable of S. A. Gilbert, East Hamilton. Terms, $10.00 to insure. This fine horse is seven years old; was bred in Springfield, Vt.; got by Gifford Morgan; dam by the same horse, thus possessing more of the blood of the Gifford Morgan than any other horse now living. For figure and description, see Cultivator for 1849, p. 216.

MORGAN CHIEF will be four years old on the 18th of June next. He is a superior colt; was got by Gifford Morgan, dam by Green Mountain Morgan. He will stand at the stable of H. R. Ackley. Terms, $10.00 to insure. See Cultivator for 1849, p. 67.

June 1—2t. ACKLEY & GILBERT.

Morgan Horse Young Gifford.

THIS splendid colt will be kept at the stable of the subscriber the coming season, for a few mares only. Young Gifford will be three years old in June next; in color chestnut; was bred in Walpole, N. H., by F. A. Wier; got by Gifford Morgan, dam by Sherman Morgan, thus possessing the blood of the best Morgan Stallions on record. In color, form and action, he closely resembles his illustrious sire. Terms, $10.00 to insure. Good pasturage furnished; accident and escape at the risk of the owner. S. A. GILBERT

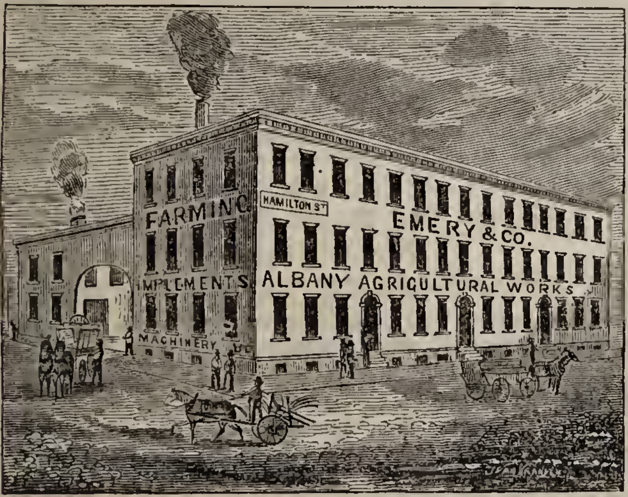
East Hamilton, Madison Co., N. Y., June 1—2t.

SIR HENRY ECLIPSE

WILL stand in the city of Albany, at the stable of Wm. W. Woolford, 157 Washington-street, as follows: Five dollars single service, ten dollars the season—insured by agreement. Season to commence the first of May and end the 15th of July. Admirers of good horses are invited to examine for themselves.

PEDIGREE.—His grandsire was the noted horse Sir Henry, imported; his sire the McKinney Henry; his dam from Morgan descent; and in point of beauty and endurance, could not be excelled in the land. Sir Henry stands full seventeen hands, is a dark chestnut, and weighs about 1,400 lbs., and is a perfect model of a horse. He challenges the land for comparison of stock, and is the horse that was awarded the first premium at Buffalo when three years old, and is coming six years old this May. JOHN D. SPINNER.

June 1—2t



EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Railroad Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April.] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommend and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..	$85 00	
do do Thresher and Separator,.	35 00	
do Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do Two Horse Power,................	110 00	
do do Thresher and Separator,..	35 00	
do Bands, oiler, wrench, &c.,...........	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,..		$75 00
do Saw Mill, complete for use,..............		$35 00
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,................	$75
Two Horse Power,...............	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway, Albany, N. Y.

HAMILTONIAN.

THIS celebrated horse will stand at the stable of G. A. Austin, in Orwell, Addison Co. Vt. Season commencing 1st of May, and ending in September.

This beautiful horse is 16 hands high; his color a dark bay; age 12 years in June 1851. He is the oldest and best blooded Hamiltonian now living, and has sired more roadsters and fast trotters than any other horse in the State. The fastest trotting Mare in Vermont was sired by him. She can go her mile in 2.40. The fastest trotting Stallion in Vermont is also a Hamiltonian. In addition to his blood qualities of speed and endurance, his unequalled success in producing roadsters consists in his great strength, and the peculiar formation of his limbs, his large forehead and deep quarters in which he excells. This horse took the first premium at the Rutland County Fair, held in Castleton in September, 1846. His stock is unsurpassed, and is in great demand. Several of his colts have been sold for $300 to $750 each. Some of his stock can be seen on the premises.

I have in my possession a great variety of letters from different persons relative to this horse, but as they are all of the same tenor the following will serve as a sample of the whole. It is from Fitch Clark, a gentleman who has probably taken more horses to market than any other man of his age in the State:

PAWLET, March 31, 1851.

Dear Sir—I can say more for the HAMILTONIAN horses than for any other of my acquaintance. I have had a great number of them, and they meet with a more ready sale than any other breed I have ever dealt in. I think the horse you have is the best blooded Hamiltonian now living. I have had a number of his colts. They were all fast. The bay mare I purchased of Joshua Hulett, (which you know was sired by him,) went in Albany in 2.46.

Respectfully yours, FITCH CLARK

Besides this, I have any number of letters from the best judges, which can be seen by those who are not acquainted with the stock of the Hamiltonian. I have also several colts of his on the premises, which will speak for themselves. They are not only roadsters, but sufficiently large for the plow &c.

PEDIGREE.

Hamiltonian is a grandson of the renowned Hamiltonian, owned by the late Isaac Bishop of Granville, Washington County, N. Y. Mr. Bishop purchased him at 3 years old for $1000, and he won for his owner, the same fall, in a match for $1000. Hamiltonian was sired by old Messenger, dam Miller's Maid. He was own brother to Membrino, that sired Betsey Baker, and the fastest trotting nags of the day. Terms six dollars the season.

Orwell, Vermont, June 1, 1851—1t.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel Wool on Commission. From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for Cash.

The charges for receiving, sorting and selling will be ONE AND A HALF CENTS PER POUND, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

Important to Wool Growers.

I PROPOSE to sell twenty-five pure Pauler Merino Ewes, with Lamb, by a French Merino Buck, purchased of A. L. Bingham of Vt.; also twenty-five yearling Ewes, from my Pauler Ewes and French Buck; also a few choice Bucks. My flock originated from *R. V. R. Horton's flock, Rutland county, Vt. I purchased eleven Ewes and one Buck in the winter of forty-five; I have also had Bucks of Avery of Saratoga, at different times. I will sell at prices within the reach of common Farmers

Otisco, May 1—2t. N. H. NOYES.

P. S.—Any one wishing to get some good sheep could satisfy themselves by calling at shearing time. Any information wanted address N. H. Noyes, Otisco, Onondaga county.

* A description of Mr. H.'s sheep can be found in the vol. of the Cultivator published in forty-five and six.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Anti-Pyric Paint, Fire, Weather, and Water Proof.

Manufactured by THE NEW-YORK ANTI-PYRIC PAINT COMPANY, for the roofs of Dwellings, Warehouses, Bridges, Fences, and all Articles that require Protection from Fire, Weather, or Water.

TO THE PUBLIC.—The Anti-Pyric Paint Company are prepared to fill orders for their incomparable Anti-Pyric Paint. They wish it to be distinctly understood, that their Paint is distinct from any of the various *ground rocks, slates, clay or mud*, which are puffed and sold in the market as fire proof paint. The Paint offered by this Company is manufactured from proper materials only, scientifically prepared and combined and as such it is offered to the public, with the full assurance that in its protective properties against Fire and the Elements, it is superior to any article ever used in the form of Paint; and that, after all the earths and native Paints, (so called) have had their day and failed, the Anti-Pyric Paint alone will maintain its reputation as a perfect protection against the weather, falling sparks or cinders, and a not too immoderate heat from the direct action of Fire. It has no deleterious articles in it, will not crack, peel off, or wash away, but hardens by time and becomes permanent and imperishable by age! Thousands have used it for the last three years without a single failure.

Constantly on hand and for sale at the Depot of the Company, by GEO. G. SHEPPARD, their sole agent, 187 Water street, New-York, where may be had Certificates of its qualities, and full directions for using it. May 1—2t.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

Louis Agassiz, LL.D., Professor of Geology and Zoology.

Jeffreys Wyman, M. D., Professor of Comparative Anatomy and Physiology.

Henry L. Eustis, A. M., Professor of Engineering.

Eben Norton Horsford, A. M., Professor of Chemistry.

Instruction is also given by Professor Pierce in Mathematics, Prof. Lovering in Physics, and the Messrs. Bond at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

POUDRETTE.

THE Lodi Manufacturing Company offer their Poudrette for sale at their usual prices, viz: $1.50 per barrel, for any quantity over six barrels, delivered free of cartage on board of vessel, in the city of New-York. The article offered this year for sale, will have the advantage of being freshly manufactured.

☞ The company's office is 74 Cortland Street, New-York city, a few doors from the ferry. Address "The Lodi Manufacturing Company, New-York," *post-paid.* April 1, 1851—3t.

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*

Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

John Mayher & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultural Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co

March 1—tf 197 Water Street, New-York

GREAT SALE OF SUPERIOR THOROUGH *Bred Short-horn Cattle.*

THE subscriber, having more stock than can be sustained on his farm, will offer at public auction about 30 head of his Improved Short-horn Cattle, consisting of Bulls, Cows, Heifers, and Heifer and Bull Calves, on Thursday, the 26th day of June next, at his farm, $2\frac{1}{2}$ miles from this city.

It is known to breeders of improved stock in this country, and in Canada, that the proprietor of this herd, during the past twelve years, has, through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a Herd of Cattle, from which superior animals could safely be drawn, for improvement and cross upon other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd it is well known, has recently been disposed of at public sale by his administrators, and dispersed in many hands, and can no longer be resorted to as a whole for improvement. The announcement of that sale created great interest, and all Short-horn breeders in England seemed emulous to secure one or more of the animals to mingle with the blood of their herds; and at the day of sale there was found assembled, the largest audience ever before witnessed on a similar occasion, numbering, it is said, from 4 to 5,000 persons; among them were the most eminent breeders in England, and several from other countries. Some of the animals bringing prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported Bull Duke of Wellington, and the premium Bull Meteor. These are Bates Bulls, and their reputation as stock getters, is too well known to need any comments. I am, however, authorised to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, have these two bulls been bred to Short-horn cows of other herds previously imported into the United States, but what the produce were superior in general qualities to such herds." The most of the stock which is now offered for sale, has been bred from these two bulls; and the proprietor having a young bull more remotely connected with the portion of the herd which he retains, (say about 14 in number,) he can now spare these two valuable Bulls. There will be in the stock offered for sale, six young Bulls, from 8 months to about 2 years old, in addition to the two above named; and the remainder of the stock will be composed of Cows, (most of them possessing extraordinary milking qualities,) Heifers, and Heifer Calves.

It is believed that no Herd of Short-horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals. A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., April 1, 1851—3t.

MORSE'S GREY.

THIS celebrated Horse was awarded the first premium of $20, at the great New-York State Fair in Sept., 1850, where he was exhibited with a large number of his colts, and was judged the best stock-horse for "all work" in this country. Said horse has trotted his mile in two minutes and forty-six seconds. One of his colts took the first premium at the State Fair at Saratoga Springs; he was owned by Mr. Milliman, of Washington county, N. Y.—and in all places where this stock has been exhibited, they have carried off the best premiums. He is a beautiful dapple grey, $15\frac{3}{4}$ hands high, strongly and finely proportioned.

This Horse is a descendant of the "Dilligence horses" in Italy, and brought from there by Napoleon Bonaparte, into France. His sire was brought to Quebec, and was then sold to a gentleman by the name of McNit, of Washington county, N. Y. His dam was of the Messenger breed.

Said Horse was raised by Mr. J. Mills of Argyle, Washington county, N. Y. We challenge any horse in this State to show as fine stock as said Horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150, to $500, and $1000.

Terms $10 the season. Insurance to be agreed upon. Said Horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to I. T. Grant, P. M., Junction, Rensselaer county, N. Y., will receive prompt attention.

CALVIN MORSE,
I. T. GRANT.

April 1, 1851—3t.

The Mambrino Horse Washington.

THIS Celebrated Horse will stand the present season at North Ferrisburgh, Addison County, Vt. Washington was bred by John Thorn of Washington, Dutchess County, N. Y.—is a beautiful dark bay, over 16 hands, well proportioned, having great action, and possessing a great share of bone and sinew. Washington was got by Mambrino Paymaster, and Mambrino Paymaster by Mambrino, and Mambrino Paymaster's Dam by the imported Horse Messenger. Washington's dam by Mount Holley, grand-dam by True Britton, Mount Holley by the imported Horse Messenger, and dam by Bagazette. It will be readily perceived that Washington combines the best blood ever imported to this continent, and is adjudged to possess more good points and symmetry of proportion, than any other horse of his age, having taken the First Premium at the Dutchess County Agricultural Fair, in the fall of 1847, and the First Premium at the Addison County Fair last fall, on a field of eleven stallions, most of which were the stock of the original Black Hawk. All who are desirous of raising high-priced horses, are requested to call and examine the Horse and his stock.

THOMAS R. NOONAN,
ANDREW HOLMES,
Proprietors.

May 1—2t*

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of Full Bred Short-horns and Improved Dairy Stock, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved Dairy Stock, which is composed of the finest Short-horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short-horns.

I am now breeding the Short-horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the First Prize as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my Imported Bull "Lord Eryholme," or my celebrated Bull "Lamartine."

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not as yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck "Babraham." Some of their Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous Herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25, (say twenty-five dollars,) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either of my Bulls, which he shall choose. I will give $25 for any heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent a distance, will be delivered on shipboard or railroad in the city of New-York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post, please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New-York, by Harlem Railroad. April 1.—3t L. G. MORRIS.

Postscript.—I decline selling any Stock by private sale, so as to offer the public all the animals I have to part with, without having any previously selected from the Herd—and all animals offered will be positively sold.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at $37\frac{1}{2}$ cents per week, but entirely at the risk of the owners.

Syracuse, May 1, 1851—3t. J. B. BURNET.

THE ORIGINAL BLACK-HAWK.

AT the earnest solicitation of many friends of this justly celebrated Morgan Stallion, the owner has been induced to let him remain in Vermont for one season more.

The superiority of this horse as a Stock-getter is becoming more and more highly appreciated, as his progeny are disseminated over the country.

For particulars in regard to pedigree and performances see large bills and previous volumes of the Cultivator.

Black Hawk will be kept for this season at the stable of the subscribers.

Terms $25 the season, payable in cash or satisfactory notes on demand, with interest.

Mares will be pastured at a reasonable price—accidents and escapes at the risk of the owners.

Bridport, Vt., March 1—4t. D. & D. E. HILL, Agents.

Contents of this Number.

Suggestions in relation to the Improvement of Agriculture,.. 193
Suggestions for Experiments to test the Action and Value of of Gypsum, by John Townley,.......... 195
Improvements in the Manufacture of Flax,.......... 199
On Drainage and Irrigation, by W. P.,.......... 200
On Cutting and Curing Hay, by G.,.......... 201
The Potato Disease, by C. E. G.,.......... 202
Peat and Peat Charcoal, by Prof. Norton,.......... 203
Profits of Farming—"A change has been going on," by W. L. Eaton,.......... 205
Good and Bad Farming, by L. D. Watkins—Farmers should Read, by L. Durand,.......... 206
Destruction of Quack Grass, by C. E. G.—Dairy Matters, Recipes, &c.,.......... 207
Severson's Iron Bridge—Durable Roofs, &c.,.......... 208
Improved Seed Drill—Pyramidal Pear Trees,.......... 209
New Fruits,.......... 210
Summer Pruning Hardy Grapes,.......... 211
Horticultural Items—Kill the Weeds,.......... 212
Notices of New Publications,.......... 213
Answers to Inquiries,.......... 214
Mediterranean Wheat—To Farmer's Boys,.......... 215
Poetry—Invitation,.......... 216
Notes for the Month—To Correspondents,.......... 217
Albany Prices Current,.......... 220

ILLUSTRATIONS.

Severson's Iron Bridge,.......... 208
Improved Seed Drill,.......... 209
Pyramidal Pear Tree,.......... 209
Training Pyramidal Pear Trees.......... 210
Training Grapevines,.......... 211

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn.
June 1, 1851—St.

Emery's Horse-powers and Threshers.

EMERY & CO.'S Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York. G. H. BARR.
June 1—2t.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.
Bone Dust, Sawings, Shavings, and Crushed, at $2 25 per bbl.
Bone Black, or Burnt Bones, at $3 per hogshead.
Bone Waste, or Bone Manure, at 1¼ cents per lb.
Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.
Sulphate of Soda at 1 cent per lb; packages included at the above prices. For sale at the State Agricultural Warehouse
June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

FISH FERTILIZER.

THE fertilizing qualities of *Fish*, when applied as a manure, are well known to many farmers as one of the most powerful manures—being thought nearly, if not *quite* equal, to the best *Peruvian Guano.*

By a new process, fish are now prepared so that they retain their fertilizing qualities, and are as easily applied as the common Guano. The result of repeated analyses by Prof. Norton is, that it is *equal* to the general qualities of Guano. It is now offered to the public, *Wholesale and Retail*, at the Albany Agricultural Warehouse and Seed Store, 369 and 371 Broadway, where the public are invited to call and examine. Price per ton, $35.
June 1. EMERY & CO.

DANA'S MUCK MANUAL.

(*New Edition.*)

THE subscriber has in press and will publish without delay, a new, revised, and greatly enlarged edition of "The Farmer's Muck Manual," by Dr. S. L. Dana. The work has been almost entirely re-written, much new and valuable matter added, and brought up to the present advanced state of agricultural science. It will be printed from large clear type, on good paper.

Orders are respectfully solicited. Any one sending the publisher 75 cts. will receive by mail a copy, *post-paid.* JAMES B. WALKER,
June 1—1t. Lowell, Mass.

Imported Suffolk, Essex, and Middlesex Hogs.

THE subscriber has now on hand and for sale, some pure Blooded Suffolk, Essex, and Middlesex Swine, from the importation of the late William Stickney of Boston. All orders and selections trusted to Isaac Stickney, administrator of the estate of William Stickney, will be promptly attended to, and selections made with great care.
ISAAC STICKNEY, Chatham-street, Boston.
Boston, June 1, 1851—1t.

Berkshire Pigs for Sale.

I OFFER for sale Three pure blooded Berkshire Boar Pigs, 8 weeks old, from my imported Sow and Boar, (from the stock of G. Hayter, Esq., M. P., of Talscot Farm, Berks, England,) and noticed at page 43 of the American Agriculturist.

Also a few half breeds from a very fine large Sow, which I can highly recommend, as something superior.
C. W. SIMMONS, Yonkers.
June 1, 1851—1t. Direct (post-paid) 176½ Bowery, New-York.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

Seeds.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a yaar. A. B. ALLEN & CO.,
Merch 1—tf. 189 and 191 Water street, New York.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be paid in advance.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, JULY, 1851. VOL. VIII.—No. 7.

History of the Short-Horns.

CATTLE, by W. YOUATT and W. C. L. MARTIN, being a Treatise on the Breeds, Management, and Diseases, comprising a full history of the various races; origin, breeding, and merits; their capacity for beef and milk; the nature and treatment of their diseases; the whole forming a complete guide for the Farmer, the Amateur, and Veterinary Surgeon, with 100 illustrations. Edited by A. STEVENS. New-York: C. M. SAXTON.

THE increasing attention which is being given to improved breeds of cattle, and other live stock, naturally creates a demand for books which contain information on this subject. Such books have heretofore been chiefly derived from English authors. The most elaborate writings on the different kinds of domestic animals, are those of the late Mr. YOUATT, drawn up under the direction of the Society for the diffusion of useful knowledge. His works on The Horse, Cattle, Sheep, and Swine, are considered standards. That on cattle, published in 1835, both as regards the history and description of breeds and the treatment of diseases, may be deemed without a rival.

The work of MARTIN, published in 1848, is one of character and respectability, and in reference to the natural history of the ox, is superior to any which has appeared. The author has been a prominent officer of the London Zoological Society.

But it strikes us that the *plan* of the book whose title is at the head of this article, is liable to a serious objection. The inference from the title page is, that it is a combination of portions of the works of Youatt and Martin, prepared by Mr. STEVENS, who has, also, made alterations and additions, under the plea (as stated in the preface) of "advancing the matter to the present state of knowledge on the subject." The reader, however, is left with no guide or key by which the different authors may be recognised. The point seems to have been entirely overlooked, that the public might regard it as of some importance to know whether statements to which their belief is invited, are made on the authority of Mr. Youatt, Mr. Martin, or Mr. Stevens.

But there is a portion of the work which Mr. Stevens acknowledges as his own. This is given under the head of "Corrections of Mr. Berry, and further Historical Notices of the Short-horns." The chief points to which these corrections refer, are

> "1. The *asserted* importation of cattle from Holland about one hundred years since, and the union of their blood with the then existing Short-horns of the valley of Tees. 2. The assertion that about one hundred years since, the breeders of Short-horns, in their pretended improvement, 'proceeded on a judicious system of crossing with other breeds.' 3. The claimed exclusive improvement effected in the Short-horns by C. Colling. 4. The assertion that Mr. C. Colling adopted as the rule of his breeding, the reduction of the size of the Short-horns. 5. The account given of Hubback, in which it is impliedly said he was not a pure Short-horn. 6. The whole account of the Galloway cross, and the value of that cross in consequence of the Galloway blood."

These comprise the principal objections which Mr. Stevens makes to Mr. Berry's history of the Short-horns. We will notice them briefly in their order. 1. Mr. Stevens denies the importation of cattle into England from Holland "about one hundred years since," but says—"There can be no doubt that *originally* the Short-horns came from the Continent." In this Mr. Stevens concedes an important point. It has been held by some persons that these cattle were indigenous to Britain. Thus Mr. A. B. Allen, in his *History and Traditions of Short-horn Cattle*, says,

> "We traversed Durham and Yorkshire with unspeakable interest, for these counties are emphatically the home of the Short-horns. Here they *originated*, here they have flourished from time almost immemorial, and here they received those improvements which have carried them to such a pitch of excellence as to insure them a precedence throughout the most fertile regions of the world."—*Am. Agriculturist*, vol. 1, p. 161.

It is proper to say, that the ground taken by Youatt, Martin, and most other authorities, is, that this tribe of cattle was introduced into Britain from the north-western portion of the European continent.

The chief argument adduced by Mr. Stevens to prove that there was no importation of cattle from the continent at the period above alluded to, is, that there was, as he asserts, a statute of Parliament prohibiting their introduction. This act, it is stated, was passed in the year 1666, and continued unrepealed until 1841, "and was *always enforced*, except from 1801 to 1814." Of the existence and operation of such a statute, we have no other information than that given by Mr. Stevens, and at present can only say, that an actual prohibition of the nature here claimed, is irreconcilable with the statements of many writers of the highest respectability. Is it reasonable to believe that the enforcement of such a law would have escaped the knowledge and mention of men of such intelligence as Youatt, Berry, Martin, Culley, Bailey and Low? Yet so far from this, most of these writers and others, positively state, and all of them admit, that cattle were imported during the period referred to, and that some of those importations contributed to the imrovement of the Short-horns.

We cannot here devote the space necessary to show the views of these writers on this point, by extracts. The following, from Professor Low's *History and Illustrations of British Animals,* may be taken as the substance of what has been said by others. Speaking of the Short-horns, Prof. L. says:—

> It is not unreasonable to believe that during the period of Saxon colonization, they may have been brought to the country by the Jutes and Angles who settled in this part of England. * * * * But at a long subsequent period, near our own times, it appears that cattle were frequently brought from the opposite continent. They were chiefly imported from Holland, the cows of which country were the most celebrated of all others in the north of Europe for the abundance of their milk and the uses of the dairy. The earliest importations seem to have been made to the country of the Humber, where the port of Hull maintained a constant and extended intercourse with Hamburgh and the United Provinces. The Dutch breed was especially established in the district of Holderness, on the north side of the estuary of the Humber, whence it extended northwards through the plains of Yorkshire; and the cattle of Holderness still retain the distinct traces of their Dutch original, and were long regarded as the finest dairy cows of England. Further to the north, in the fertile district of the Tees, importations likewise took place of the cattle of the opposite countries, sometimes from Holland and sometimes by the way of Hamburgh, from Holstein, or other countries of the Elbe. * * * * Of the precise extent of these early importations we are imperfectly informed; but that they exercised a great influence on the native stock, appears from the circumstance that the breed formed by the mixture, became familiarly known as the Dutch or Holstein breed, under which names it extended northward through Northumberland, and became naturalised in the south of Scotland. It was also known as the Teeswater, or simply as the Short-horned breed."

2. The reply to Mr. Stevens' second objection will be comprised in replies to the others.

3. The third objection to Mr. Berry's history is that—"It is not true that Charles Colling exclusively improved the Short-horns, or bred better ones than he originally obtained to breed from."

Where did Mr. Berry ever assert that Charles Colling was the *exclusive* improver of the Short-horns? We have never seen such an assertion. Mr. Stevens says—"Mr. Berry, in both his histories, gives no one credit for improvement in the Short-horns but Charles Colling;" and in this Mr. S. thinks great injustice has been done to other breeders, especially to Mr. Robert Colling, who, it is claimed, "was quite as good a breeder as his brother Charles."[*]

Now the truth is, the charge involved in this statement, is entirely unfounded. Mr. Berry did not claim Charles Colling as the exclusive improver of the Short-horns, but on the contrary, he *does* give others, and especially Robert Colling, high "credit for improvement." Mr. Berry says—

> "It would answer no useful purpose, and would certainly be an objectionable course, to bring under particular notice any one or more of the highly valuable stocks of the improved Short-horns of the present day. To enumerate all would be impossible; and the writer of this account would most studiously avoid any partial or invidious comparison. The same objection does not, however, exist as to a remote period; and it is but justice to state that Mr. Robert Colling, brother of Mr. Charles, (who certainly was the leader and surpassed all others in the improvement of the Short-horns,) Mr. Charge, of Mewton, near Darlington, Mr. Mason of Chilton, in the county of Durham, were only second to Mr. Charles Colling in this interesting and useful pursuit." [*Youatt's work on Cattle*, pp. 233, 234.]

4. Mr. Berry thinks Mr. Colling, in breeding, proceeded on the plan of reducing the size of the Short-horns, by that means improving their form, and that this was effected in the first instance through the medium of the bull Hubback. Mr. Stevens thinks he had no such design and produced no such effect. He cites the great weight of some extraordinary fat cattle as proof that Mr. Colling "increased" the size of the Short-horns. Now what did Mr. Berry mean by a reduction of size? It will not, it is presumed, be denied that the improved Short-horns are smaller in bone, in mere bulk of frame, than the old or common stock of that tribe; and this is what we understand Mr. Berry to say was effected by Mr. Colling,—not that the improved stock was incapable of *fattening* to as great weights as the common. But he says expressly, that it was their extraordinary accumulation of flesh and fat, that produced their remarkable weight. An intelligent contemporary of Mr. Colling's illustrates this. He says that by crossing the Teeswater Short-horns with Hubback, "the essentials wanted were acquired, though somewhat *reduced in size;* but as they had more flesh, less bone, and much neatness, *they lost none of their weight when fatted.*" [John Rooke, in *London Farmers' Journal*, June 2, 1821—copied in *Am. Farmer*, vol. 4, p. 166.]

Bailey, in his *Survey of Durham,* speaks of several of the most remarkable fat animals of the improved variety. He says a two-year-old steer of Robt. Colling's, was supposed to weigh (four quarters) 63 stones (882 lbs.,) and another of the same age belonging to Mr. Nesham, was estimated by the butchers to weigh (four quarters) 75 stones (1050 lbs.,) and adds, "*Neither of these animals were of large size,* and would not have weighed above 40 stones (560 lbs.) had they been no fatter than animals usually killed for the markets." [pp. 233, 234.]

4. Mr. Stevens assumes that Hubback was a "pure Short-horn." Mr. Berry says there had been much controversy "touching the purity of his blood,' but re-

---

[*] Mr. Stevens, in endeavoring to show that Robert Colling was equal as a breeder to his brother Charles, cites the fact that the latter did not *breed* Hubback; and he cites Mr. Hutchinson to prove that "Mr. Charles Colling himself, never thought so highly of this bull as is now confidently held out." But in the same letter of Mr. Hutchinson's to which Mr. Stevens refers,—(originally published in the *Farmers' Journal*, and copied into the *Am. Farmer*, vol. iv. p. 228,)—it is stated that Mr. Robert Colling,—who with Mr. Waistell, was joint owner of Hubback before he passed into the hands of Mr. C. C.,—had "declared his opinion" that Hubback *was not a good bull.* Mr. Stevens omits this part of Mr. Hutchinson's letter; yet he admits that—"By common consent, every historian of Short-horns recognizes the wonderful merit of Hubback," and he adds the expression of Maj. Rudd, that he "was the *main root* of the improved Short-horns." But according to Mr. Waistell, whom Mr. Stevens quotes, Mr. Ch's. Colling *did* think "highly" of Hubback, for as soon as he came into his hands, he would not let him serve Mr. W.'s cows for less than "*five guineas*" *each.* (p. 124.) Now which showed the most judgment as a breeder in this important case, Robert or Charles Colling? It is true that Mr. Hunter, and not Mr. Colling, bred Hubback; but does that entitle Mr. Hunter to any merit as a breeder? Although Hubback, as Mr. Stevens admits, was a "wonderful animal," neither Mr. Hunter, nor any other person but Charles Colling, perceived his excellence; for it appears that after passing through various hands, he was purchased at six years old by Mr. Colling, for the low price of *eight* guineas—two guineas *less* than Robert Colling gave for him!

gards the question as of "little importance" at the time he wrote. Mr. Stevens thinks it is thus "impliedly said that he was not a pure Short-horn." He therefore proceeds to bring forward what he deems "full and conclusive proof of the purity of Hubback's blood." His first reference is to the pedigree of that animal in the Herd Book; but admitting the correctness of the pedigree as there given, it does not prove the point assumed. The pedigree shows that Hubback was descended in part from the stocks of Sir James Penniman and Sir Wm. St. Quintin, but it is not proved that these were pure Short-horns.

On the point of there having been Kyloe (or West-Highland) blood in Hubback, to which the "controversy" alluded to by Mr. Berry chiefly related, Mr. Stevens cites an "account" which Mr. Coates, the author of the Herd-Book, says was given to him by Mr. John Hunter, son of the breeder of the animal in question. Mr. Hunter says he "remembers" the cow which his father bred, that was the dam of Hubback, and that he does not "believe" she had any Kyloe blood in her. Now it is obvious that the value of this "belief" depends on Mr. Hunter's opportunities for obtaining correct information. Hubback was calved in 1777, and the paper signed by Mr. Hunter, is dated July 6, 1822—forty-five years after Hubback was produced. Of course, the correctness of Mr. H.'s impressions, depends much on his age at the time the animals were bred. How old was he when his father owned the dam of Hubback, which he says he remembers?

Mr. Stevens says (page 121,) "All the authorities for the impurity of Hubback's blood shall be quoted." He proceeds to quote from Major Rudd and others, but leaves out the following expression in one of Major R.'s letters, of which he takes a part: "I am in possession of evidence which establishes the fact that the *dam* of Hubback owed her propensity to fatten to an admixture of Kyloe blood." [Letter in *Farmers' Journal*, dated June 28, 1821—copied in *American Farmer*, vol. 4, p. 174.]

But even Mr. Hutchinson, who is much relied on by Mr. Stevens to make out his case, did not deny, but rather admitted at the time of the controversy, that Hubback had Kyloe blood. Mr. H.'s letter of which Mr. Stevens has quoted a part (page 125,) in which the former aims to show that his own stock is related to Hubbard, commences thus: "The bull Hubback being now pronounced the *grand cause of improvement*, instead *of the main root* of the Ketton and Barmtons, so celebrated above all other Short-horns,—it behoves every breeder to prove his own stock related to this wonderful animal, if he can." He then shows that Hubback was used in Mr. Fawcett's and Mr. Waistell's herds before Mr. Charles Colling bought him, and towards the close of his letter, argues that there were other strains of valuable blood in the Short-horns, besides that from Hubback, saying that it was "most wonderful" that "no virtue is allowed to be found in any blood, but in this *drop of the Kyloe in the veins of Hubback!*" [Letter under date of Oct. 10, 1821, in *Farmers' Journal*—copied into *Am. Farmer*, vol. 4, p. 228.]

Another admission of Mr. Hutchinson's, of a similar character to the above, is referred to in a letter of Mr. Rooke, given from the *Farmers' Journal*, in 4th vol. of the *Am. Farmer*, p. 166.

After a full examination of what Mr. Stevens says on this point, we think the conclusion will be that Hubback's pedigree is as much a subject of doubt as when Mr. Berry left it, 1835.

6. The last point is the Galloway cross. This stock, called the *alloy*, Mr. Stevens contends "had no value except *as conferred* by the Short-horn blood in them, and *in spite* of the Galloway strain."

We will occupy no more space with this part of the subject than is necessary to show the view taken of it by those who have had the best opportunities of knowing the facts. We will omit what Mr. Berry says in praise of the *alloy*, simply referring to one or two witnesses to corroborate his statements.

Mr. Stevens, as we have said before, makes frequent reference to Mr. John Hutchinson; it is evident, therefore, that he considers him *authority*, and he could not consistently appeal from authority which Mr. H. would recommend. Now, in relation to a point connected with the pedigree of the bull Sir Leoline, bred by Mr. H., he referred to Major Rudd, and sent a letter on the subject that he received from Major R., to the *Farmers' Journal*, which he prefaced by saying—"it is from a gentleman whose intimacy with the Messrs. Colling, and whose experience of their stock entitles him to possess the *best information and most accurate experimental knowledge of their comparative merits.*'

In this letter Major. Rudd speaks of the cow Lady, whose progeny some writer had attempted to depreciate in value on account of their Galloway blood, and says—"I have yet to learn that this blood has been of any injury to Lady or her descendants; for I can truly declare, that after having had some experience during *ten years* with different branches of the Ketton stock, *I give the preference to the stock descended from Lady*,—and I know also, that they are held in the highest estimation by Mr. Charles Colling." [This letter is dated May 31, 1821, and is copied in the *Am. Farmer*, vol. iv., p. 149.]

It should be noticed that Major Rudd was for many years one of the leading breeders of Short-horns. At Charles Colling's sale in 1810, he purchased the highest priced animals in the herd, with the exception of Comet; viz: Lily at 410 guineas, Countess at 400, Petrarch at 365, and Peeress at 170 guineas. Countess was out of Lady, and of course had the *alloy*. It appears Major Rudd always adhered to the opinion above expressed, in regard to the superiority of that stock. In 1824, after the stock had been in his possession *fourteen years*, writing to John Hare Powell of Philadelphia, he says—"I have long enjoyed the friendship and intimacy of Mr. Charles Colling. * * * * Residing at no great distance from him, I was in the constant habit of witnessing his experiments, and when his celebrated stock was sold, in the year 1810, I became the principal purchaser." In a subsequent letter of the same year, written to Mr. Powell he says—"You know that I purchased Mr. Charles Colling's best cows. * * * * Our best breeds of horses for the carriage, the road, the chase, &c.—our cattle, sheep, pigs and dogs, have all derived their improvement from *judicious* crossing. * * * You know that I have had long *experience* on these subjects, and have been intimately acquainted with our great improvers of cattle, sheep, and horses."*

It may be well to note that Mr. Stevens says he derived the account of the Galloway cross on which he bases many of his conclusions, from Mr. Thomas Bates, and much of his information in regard to Hubback, appears to have been received from the same individual. But even Mr. Bates does not seem to have been *practically* hostile to crossing. It is well known that he made many experiments in crossing the Short-horns with the West-Highlanders or Kyloes. [Youatt on Cattle, pp. 247-8.]

The agent of the largest stock-importing company ever formed in the U. S., stated to the writer of this article that Mr. Bates strongly advised him to bring a bull of this cross to America; and even Mr. Stevens has more than once stated that one of the most noted bulls ever sent to this country by Mr. Bates, possesses a strain of Highland blood. It is true, undoubtedly, that Mr. Bates, as well as Mr. Colling and others, had a definite object in view in making their experiments in crossing, and the result appears to have been, to a certain extent, in accordance with their designs.

This is a brief notice of Mr. Stevens' principal objections to Mr. Berry's history. It will doubtless strike many readers as singular that he should have been made the medium through which so much new light on this subject should be given to the world. The question very forcibly presents itself—why were not these "corrections" made at an earlier day? In a case of so much consequence, involving not only important historical facts, but also the veracity and moral honesty of individuals, why was the issue deferred till those individuals and all the important witnesses, were beyond the reach of a summons to any earthly tribunal? Does such a course accord with the principles of acknowledged justice? If, as is charged, Mr. Berry was actuated by base motives in writing the history of the Short-horns—if he perverted facts and stated falsehoods—why was he not called to account at the time?† All the parties most deeply interested were then living, and able to speak for themselves, and in every view of the case were much more capable of arriving at truth, than an individual belonging to another country could be, after the lapse of many years, when the chief actors have passed away. Under these circumstances, the dictatorial manner which Mr. Stevens has assumed, and the contemptuousness with which he has treated previous history, evinces a egree of arrogance seldom met with, and the inquiry presents itself—By what right does he presume to speak in such oracular terms on this subject?

The manner in which Mr. Stevens supports his own views by quotations, is deserving special notice. He makes frequent reference to authors, without telling us where the language which he attributes to them can be found. For instance, on page 114, he says—"The late Mr. Thomas Bates, of Kirkleavington, Eng., was informed by Mr. Christopher Hill, collector of the port of Sunderland," that examinations had been made in reference to the importation of cattle from Holland. Again on page 119, he refers to a letter of Mr. Bates "relating to his Duchess tribe of cattle," and again on page 120, he refers to a letter from Col. Trotter to Mr. Bates, and on page 124, he refers to a letter of Mr. Alexander Hall to Mr. Bates, and on page 125, to a "certificate" given by Mr. Hall to Mr. Bates. On page 128, he says the "account of the Galloway cross was derived from Mr. Bates."

It should be remembered that Mr. Bates died before Mr. Stevens' book was published, and it is desirable to know *where* the important information communicated to Mr. S. was first recorded; or if it was not recorded, whether it was *all* received orally from Mr. Bates.

On page 118, a description of the Short-horns of Messrs. C. and R. Colling is given, purporting to come from Mr. John Hutchinson; and on page 119 another reference is made to Mr. H., and on page 123 a quotation is given, said to be from a letter from Mr. Foss to Mr. Hutchinson, and on page 125 a quotation purporting to be from Mr. Hutchinson is given, in reference to "a dissension" which it is said had "arisen amongst the Ketton and Barmpton breeders." But in neither case has Mr. Stevens given the least hint as to where the language given was *originally* made public. The same may be said in reference to quotations attributed to Mr. Waistell, on pages 120, 123, 124.

There are other parts of Mr. Stevens' "corrections and further history" which it might be well to notice, did the space to be allowed in a single article permit; but we shall be obliged to conclude by a notice of only one or two more points.

Some readers will recollect that Mr. Stevens gave what he called a "history" of the Short-horns in the Transactions of the N. Y. State Ag. Society for 1849. The main point of *this* "history" appeared to be to show that the most esteemed families of that tribe of cattle were taken to England from Normandy by followers of William the Conquerer. He commences by saying:

> "The ancient family of the Aislabies which came into England with William the Conqueror, established themselves prior to 1300, at Aislabe, on the river Tees, in the county of Durham, and the manor, their estate, was called after the family. As early as 1600 the family was known to possess a most extraordinary tribe of cattle."

The inference from this, if anything is to be inferred, is that the best Short-horns are descended from Norman progenitors. Nothing of the above, however, appears in his "Corrections and History" in the book under consideration. Why omit so important a matter when the whole history of the case is to be set right?

Mr. Stevens closes his "corrections and history" by a notice of Mr. Stephenson's stock, the only specimens of which in America, are in the hands of two individuals. He tells us that Mr. Bates, "through Mr. Stephenson's bull Belvedere, *greatly improved* his Short-horns. This is quite different from what Mr. Stevens has elsewhere told us. In the *American Agriculturist*, vol. 5, p. 51, he said—"When Belvedere was brought into the herd, [Mr. Bates' herd,] the only change he made in a marked manner to the eye, was that some of his get were roan. *In essentials the herd remained the same.*"

How is it possible that the herd could have been "*greatly improved*" while "*in essentials it remained the same?*"

---

* These letters are published in the Memoirs of the Pennsylvania Agricultural Society for the year 1821.

† Mr. Stevens says—"It is said that in this second history, his [Mr. Berry's] object was to serve himself, as in the first he had served Mr. Whittaker," and adds that "no one would have a right to complain, had *truth been observed*," &c.

Mixing Plaster and Manure.

It has been recommended to mix plaster with animal or putrescent manures, for the purpose of preventing the waste of fertilizing substances. The theory is, that the sulphuric acid of the plaster unites with the ammonia of the manure, forming sulphate of ammonia—that the ammonia thus combined or fixed, is preserved from loss, and when applied to the soil, being soluble, is taken up as food to crops.

This mode of using plaster, according to the testimony of those who have adopted it, has been decidedly beneficial in many cases. Of late, however, we have heard of some cases where the use of plaster appeared to produce a very different effect from that above described. A writer in the *Richmond Whig*, with the signature of "T. S. P." (supposed to be Thos. S. Pleasants, Esq., of Petersburgh, Va.,) states that he has recently taken some pains to "investigate the matter," and thinks he has obtained "a number of important facts." His investigations related chiefly to mixing plaster with guano. He says—

> "The result was, that in nearly every case the action of guano was impaired by the addition of plaster, very much in proportion to the quantity of plaster employed. When mixed together in anything like equal proportions, the effect of the guano was entirely destroyed. In one or two instances, when plaster had been liberally used with stable manure, the effect was equally injurious."

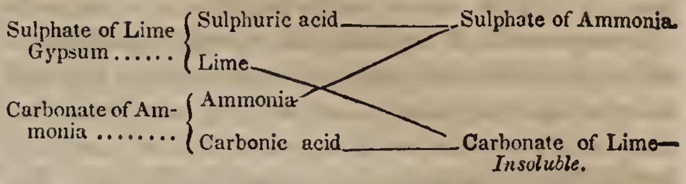
Now if these results have been produced—results so different from those generally attributed to the use of plaster—it becomes important to understand the causes which have produced them. And to illustrate the subject, it will be interesting and useful to refer to some experiments reported by Mr. Pusey,* in the *Journal of the Royal Ag. Soc.* for 1850. The following relates to some of his trials with gypsum:

> "Ammonia was escaping largely from the litter of a farm-yard, as could be perceived by the common test of holding near the surface, paper dipped in spirits of salt, which turns the invisible fugitive into a white opaque steam of sal-ammonia. A whole bushel of gypsum was strewed over a few square feet of the yard. The test showed that the escape of ammonia was uncured."

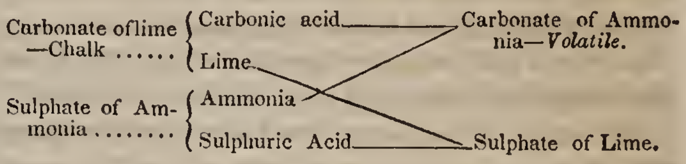
Mr. Pusey states also that he had used plaster in his stables, but they were not "sweetened." He thinks Boussingault has thrown light on this subject.

> "He says that gypsum in solution, as in a laboratory experiment, does act as desired, but that in a state of *moist powder*, the gypsum is indifferent towards ammonia; nay more, that in that state the law of affinity is reversed, and that carbonate of lime, chalk, decomposes sulphate of ammonia, actually *unfixes* it. To explain this contradiction he quotes Berthollet and the following singular law. If two saline solutions, containing between them an insoluble salt, be mixed, that insoluble salt will be formed: but if two salts, containing between them a volatile salt, be mixed in a moist pulverulent state, the volatile salt will be produced. Thus sulphate of lime and carbonate of ammonia in *solution*, produce carbonate of lime insoluble, leaving sulphate of ammonia, which is soluble though not volatile. But carbonate of lime mixed with sulphate of ammonia, in a state of *moist powder*, acting by an opposite interchange, produce carbonate of ammonia, a volatile salt, and sulphate of lime. The following diagrams will show at a glance the contrary changes.

Solutions mixed.


Sulphate of Lime Gypsum ......
Sulphuric acid
Lime
Carbonate of Ammonia ....
Ammonia
Carbonic acid
Sulphate of Ammonia.
Carbonate of Lime—*Insoluble.*

Moistened Powders mixed.


Carbonate of lime—Chalk ......
Carbonic acid
Lime
Sulphate of Ammonia ....
Ammonia
Sulphuric Acid
Carbonate of Ammonia—*Volatile.*
Sulphate of Lime.

Mr. Pusey concludes, therefore, that gypsum must be in a state of solution to fix ammonia, and to bring it into solution, requires, he states, 500 times its own weight of water. It is stated by chemists, however, that gypsum may be dissolved in a much less amount of water, when mixed with chloride of ammonia; and the solubility of gypsum when mixed with manure, is probably increased by the ammonia which the manures contain. If this reasoning is correct, it seems to explain the causes of failure above alluded to, in regard to the mixture of gypsum with guano. From the want of sufficient moisture, the carbon of the guano united with the lime of the gypsum, and the sulphuric acid not uniting with the ammonia of the guano, the ammonia became volatile and escaped.

The ammonia in guano has a great tendency to become volatile, when the guano is in a dry state, and hence, when it has been sown on the surface of the soil during very dry weather, there have been frequent complaints of its inefficiency. The escape of ammonia from stable or yard manures also takes place chiefly when the manure is dry. It is greatest when the manure heats or burns—the carbon, with which the ammonia had been united being consumed and the ammonia set free. This loss might be greatly increased by mixing with the manures, while in a dry state, any substance which should render the ammonia more volatile.

---

* "Progress of Agricultural Knowledge during the last Eight Years. By Ph. Pusey, M. P."

Irrigation in Switzerland.

The following account of the mode of irrigation practised in Switzerland, was communicated for the *Journal of the Royal Agricultural Society*, by Mr. Jenkinson, who collected the information in a personal visit to that country.

The system of irrigation appears to have been practised in Switzerland as early as the fourteenth century, and has doubtless been so extensively introduced owing to the dryness and rarity of the atmosphere; but on account of the variety of the position of the various cantons, there are some modifications in the management of water meadows.

In the Canton of Aargau, which contains some of the best land in Switzerland, the meadows are irrigated with water alone, where the nature of the ground admits of its application. My informant, M. Jean Herzog of Aarau, told me that the water they apply possesses the most fertilizing qualities—that it is of a peculiarly soft nature—and that he has at times observed a kind of soapy or oily (*savoneuse*) substance floating over the meadows when they are in water. When the streams are increased by the melting of the winter snows, the water loses its efficacy, but when thickened with rain, their efficacy is increased. Also when the water is suffered to flow over too large an extent of land, its virtue is invariably diminished. M. Herzog also informed me that he never irrigated during the full moon, as he had always observed that when the meadows were allowed to remain in water during the clear moonlight nights, that the grass was perceptibly weakened, and that its very color was affected. He had applied water to different parts of the same meadow during the full and new moon, and had experimentally verified this fact.

During the *extreme* heat of the summer the water is not left on the meadows by day, but is turned on during the night.

The water is supposed to act as a species of *manure.* The tests of that description of water which may be applied with advantage to the purposes of irrigation are—

1. The power of dissolving soap.
2. The good quality of the trout that inhabit the stream.
3. The growth of the water-cress and weeds at the bottom of the water.

Spring water, from a source warm in winter and cool in summer, is by some persons considered more productive than the water of streams.

Streams that leave calcareous deposits on their banks, or that form petrifactions, are always injurious, and those inhabited by coarse fish alone, are generally bad.

M. Herzog's method of treatment of his water-meadows, is as follows:—After the last crop of grass is cut, which generally takes place in the beginning of October, the water-courses are cleared out, the hollows are thus filled up, and the meadows are irrigated during the months of October, November and December, till the hard frosts commence, and the winter snows fall. Should there be snow, and the weather not very severe, the water is still kept flowing over the meadows in order to melt the snow; but as soon as there is any danger of the water freezing, irrigation is discontinued.

The water is made to flow over the land for two or three days. It is then turned off and employed in irrigation elsewhere; and after the interval of a week or a fortnight, according to the appearance of the grass, it is again made to flow over the same land for a similar period. This system is continued till the irrigation is stopped by the frost and snow, and the irrigation during the months of October, November, and December is considered as the most beneficial to the land. During the spring when the streams are swollen with the melting of the snows, irrigation is discontinued. In March the system is recommenced, but the land is left dry for longer intervals. In April the first crop of grass is cut. This crop of *grass* is made use of for the stall-feeding of the cattle; it is so rich that hay is always mixed with it. After cutting, the water is again turned on for two or three days, and this is repeated at intervals of a fortnight or three weeks till the end of May or beginning of June, when the grass is cut for *hay.* After this crop has been got in, the land is left dry for ten or twelve days, when the same system of irrigation is again pursued, except that a somewhat longer period is allowed to elapse between each successive watering. The second hay-crop is generally cut in August; the land is then subjected to a similar kind of treatment, and the grass is cut for the fourth time about the end of September or beginning of October; and this last crop is also generally made use of for the stall-feeding of the cattle who are never turned out into the water-meadows. From this method of treatment it appears that four crops of grass are usually raised, and in very favorable seasons an additional crop may be obtained. The quantity of hay produced by an acre of water-meadow varies from 53 to 63 cwt.

Water-meadows are sometimes, (I do not imagine the practice to be at all general,) broken up after a period of four or five years, and potatoes, corn, clover, &c. are grown for a few seasons, when the land is again converted into water-meadow.

With regard to land where irrigation cannot be practiced, very much the same system of cultivation is pursued as in the better managed farms in England—solid manure being applied in autumn, and liquid manure in spring, and after each crop of grass. Liquid manure is mixed with water only in very hot weather. I saw a a field on M. Herzog's farm which he had already cut four times this year. There was then, September 23, a rich crop of grass which would be fit to cut in the beginning of October.

In the Canton of Berne, the system of irrigation is not so generally or so exclusively employed. Through M. Zellweger's kindness I had introductions to M. Robert d'Erlach of Chateau d'Hildelbank, and M. Emile de Fellenberg of Hofwyl. M. d'Erlach farms at Hildelbank about 180 acres, 45 of which are arable and the rest grass land. He pursues nearly the same system as that which I have already described as practiced in the Canton of Aargau, except that after May he never leaves the water on the meadows during the day, but irrigates only by night. He does not often get more than two crops of hay, the first being generally cut in the beginning of June. He turns his cattle out in the autumn, and does not feed them when in the stable with grass cut from the water-meadows, but with grass cut from the fields which have been manured. There is a spring on his estate which contains a large amount of carbonic acid gas; indeed the poor often drink it as a mineral water, and the water from this spring possesses remarkable fertilizing qualities. M. d'Erlach also told me that water which is previously useless for irrigation, after passing through mills or villages, generally becomes available.

I also paid a visit to M. de Fellenberg's farm at Hofwyl. This is situated on a conical hill, the sides of which slope gradually away. When the late M. de Fellenberg first came there, this hill was little better than a swamp, while the low ground was frequently under water. Forty feet from the top of the hill there exists a stratum of gravel, at which depth springs were discovered. M. de Fellenberg conceived the idea of draining the whole farm, and applying the water which existed on the gravel bed to the irrigation of the sides of the hill. He formed drains mostly from 10 to 12 feet in depth, covering them above with flat stones, and filling them up with loose stones till within three feet of the surface, where he placed a layer of moss to prevent the soil from being carried away by the drains. A constant supply of water is derived by means of the drains constructed on the hill-side, and is carried along the hill-side to the different parts of the farm. The water-course that conveys the water to the more distant localities is covered over, so that the water may not be affected by the temperature of the air; thus when applied to the land it is warm in winter and cool in summer. It is the intention of M. de Fellenberg to convert the whole hill-side into water-meadows; (part is now arable land.) To effect this he removes the subsoil so as to make the surface even, taking care, however, to replace, the surface soil; the subsoil so removed is exposed to the action of the air, and is then mixed with solid manure, and applied as dressing.

M. de Fellenberg thinks he cannot irrigate too much. I never saw fields look brighter or greener than the water-meadows on his farm; and the grass was thick, as M. de Fellenberg expressed himself, "like a brush." The greater the fall the quicker the grass grows (though I should observe that the fall was in no part very excessive.) M. de Fellenberg irrigates as late as possible in the year, and only stops when there is danger of the water freezing in a mass on the land; as long as the water trickles underneath a surface of ice he continues watering, and considers that this surface of ice protects the roots of the grass. The water is made to flow over a certain portion of land for twenty-four hours. It is then shifted further on, and in about a week they return to the point where they commenced. This shifting is occasioned solely by the scanty supply of water, and were there a sufficiency of water, M. de Fellenberg would let it flow constantly over the meadows, except immediately before cutting the grass. Irrigation is discontinued from the period when the severe frosts set in until such time as the snows have melted. Generally irrigation is recommenced in the month of March, and, as I have before stated, the extent to which the irrigation is carried is only limited by the supply of water. M. de Fellenberg generally has four crops of grass; the first and last are employed for the stall feeding of the cattle; the two intermediate crops for hay. Some years he has even had six crops of grass, and he recollects one year when the grass was cut for the cattle as late as Christmas. The first crop is generally cut in May, and the last crop in the end of October. The quantity of hay produced (as I was informed) per English acre is from 65 to 70 quintaux (somewhere between 64 and 69 cwt.) M. de Fellenberg finds it necessary, merely on account of manure, to keep from fifty to sixty cows. He farms about 280 acres, of which 90 are grass land. He also feeds the cattle during part of the summer with clover. The cattle are never turned into the water-meadows. Those meadows which cannot be brought under irrigation are manured with solid manure in the autumn; and should there not be a sufficiency of solid manure to spread over the whole, the remainder is watered with liquid manure *while the snow lies on the ground.*

In the farm-yard are tanks in which every drop of liquid manure is collected. This is pumped up into a channel and conveyed by it to the water-courses, and thus with the smallest amount of labor some of the water-meadows are irrigated with water diluted with liquid manure. The grass from these parts is consequently richer and thicker, but the number of crops produced from land thus irrigated is the same as that which is produced from land irrigated with water alone.

There is a pump in the center of the manure pile by which the drainings are pumped up every morning over and upon the manure pile, while part of the fluid is thrown over rubbish, potato stalks, &c. The hay was stowed away in large lofts above the cow-stables.

The whole farm was a most interesting sight, particularly when, it is borne in mind that the enterprise and perseverance of one man, has rendered what was formerly a marsh covered with coarse grass and rushes, one of the most productive and valuable farms in Switzerland. Nor were the immediate results of the late M. de Fellenberg's energy the most important. For the agricultural college and schools of Hofwyl have gained for their benevolent founder a higher name than that of a successful agriculturist. These establishments are now carried on by his two sons, who also manage the farm entirely themselves.

I only wish I could have given a better or more worthy description of what M. Emile de Fellenberg was kind enough to point out to me. On parting, he observed that it was owing to the peculiarity of the position that they have been enabled to bring about such great results; and that their system could not be applied except in places as advantageously situated. Still he added that Hofwyl was a proof of what the energy and perseverance of one man could effect.

I shall be very glad if the few facts which I have collected, and I have attempted nothing more, are not altogether without interest to you; and I must thank you for the useful hints you gave me as to the points which would be most deserving of notice. The inquiry opened a most interesting and to me a new field of observation, and added considerably to the pleasure of a vacation ramble, while through the kindness of Mr. Morier and M. Zellweger I had the good fortune of making the acquaintance of some highly informed Swiss agriculturists, of whose attentions I cannot be too sensible.

Cultivation of the Chestnut.

In answer to a request for information on this subject, published in our February number, we have received several communications, the most essential portions of which are comprised in the following summary.

Mr. V. W. S., of Syracuse, says—" The nuts may be planted in the fall, in drills, an inch or two in depth; or they may be preserved till spring, and then planted in the same way. If planted in the fall, they are liable to be thrown out upon the surface by the frost, when they will dry up and be lost, if not watched and covered again. The whole secret of success consists in preventing the nuts from being dried. If dried a very little in the house, in the fall, their germinating power is destroyed. I have an hundred or more trees growing from the seed, which I started in this way. The fresh nuts were buried in the earth together, when first gathered, and as soon as the ground could be prepared next spring, were taken thence and planted in the nursery row, a few inches apart. They had already sprouted. Some of them grew at once, and others did not appear till after the lapse of several weeks. They have grown finely for two years, and some of them are four feet high. I intend, the coming spring, to cut off the tap-root where they stand, by thrusting a sharp spade into the ground under them, striking the root say six inches from the surface. When they come to a suitable size, after this treatment, I presume they will bear removal without trouble, which the tree growing naturally in the woods will not."

Mr. I. Hildreth, of Big-stream Point, N. Y., says—" In the first place, the nuts should not be allowed to dry, but as soon as gathered should be mixed with leaf-mould sifted, and then put in a dry place, below the frost in the ground, for if they are frozen, even in the earth, they will be injured; and if several times frozen and thawed, they will be killed, as the frost destroys the texture of the nut, making it soft. After the chestnuts have been kept in this manner through the winter, early in the spring, as soon as the ground opens, they should be planted out where they are to remain, as they do not transplant well. They should be protected from severe frosts by leaves or some such substance, until they appear above ground, when there will be no further trouble, except to cultivate and hoe them until they become strong, from which time they will take care of themselves. It would facilitate the growth of the young tree, if each nut was planted in a double handful of coarse leaf-mould, as such is the substance which nature has provided for them where they grow naturally—at any rate it will prevent the earth from becoming hard about the young plant, and serve as manure."

Mr Henry Halsey, of Windsor, Ct., sends the following: " In the fall of 1849, in October and November, I planted about two acres with chestnuts. The land was a poor sandy soil—previous crop, rye. At the time of planting, the ground was literally full of the burrows of the ground-mole. Not more than one-third of my seed came up, in consequence, I believe, of the destruction of it by this troublesome little animal; for, on examination of the missing plants, I almost invariably found a mole-path to where the seed was planted. I planted the seed from half an inch to an inch in depth, merely turning up the ground with the corner of the hoe, and placing the seed, and then laying the earth back again. I once planted some horse-chestnuts that had been dried; not one of them sprouted. I afterwards planted some as soon as they fell from the tree, and in this case there was scarcely a failure. I have reason to think the common chestnut should be treated in the same manner. If your correspondent will take the precaution to have his seed, as soon as gathered, put and kept in moist sand or earth until planted, I think he will find no difficulty in getting his seed to sprout. I have treated mine in this way."

Mr. Jas. W. Gray, of New-Fairfield, Ct., says—" I have succeeded well by burying the nuts in the fall in a dry place, with a slight covering of earth, as nurserymen bury peach stones. In the spring, as soon as the ground is in a fine friable condition, take them and plant them in rows, 10 to 12 inches apart and 3½ feet between the rows, in light soil. They will grow from eight to to twelve inches the first season. The nuts should be put in the ground as soon as possible after gathering. Perhaps your correspondent has failed to have them vegetate by letting them get too dry before planting. They grow with me as readily as peach stones."

A correspondent with the signature J. T. H., Newton-Center, Mass., thus describes his mode: "My practice has been to gather the nuts when they had fallen from the tree, and were fully ripe—always selecting the largest and best; and then, without drying, mix them with sand and loam, in about equal parts. There should be enough of this to prevent the nuts from heating. Then they may be put into a cellar, or any other suitable place, where they should be kept suitably moist, as well as free from the depredations of squirrels, mice, &c. In the spring, when the ground is sufficiently dry, they may be planted; the land having been well pulverized, and manured with compost. They should be but slightly covered, unless there is a prospect of dry weather, in which case they may be covered deeper. They sometimes rot in the ground by being covered too deep. Care should also be taken after they are planted, that they may not be carried off by squirrels, or any other animals. They will make from one to two feet growth the first year, and sometimes more. They may remain in the seed-bed two or three years. When moved, the tap-root may be cut off. Should they grow crooked, they may, after they have got stout enough, be cut down even with the ground, when they will throw a nice, straight shoot, which will grow very rapidly, so that little time is lost in so doing while you get a straight tree."

J. R. L., Wilmington, Del., writes—"Take chestnuts as soon as they fall from the tree; plant in rows in white sand, one inch under the surface,—the sand packed hard; put the box in a green-house or hot-bed; water very sparingly until the shoots appear, which will be in a month after planting; then increase watering; when the plants are a foot high, prepare a compost, of sand, fresh soil and leaf mould, equal parts; transplant each root into a six inch pot, filled with the compost; keep the plants in the house or hot-bed until thoroughly rooted, that is until the roots fill the pots, turn out the ball entire, and plant where you wish the tree to remain. The first winter tie up in straw. By this method we have been entirely successful—never having lost one plant—the trees bearing the fifth year from the seed—and not over 5 to 6 feet high. The Pecan can be raised in the same way in this latitude."

G. B. D., Burlington, N. J., writes,—"If your correspondent from Otsego will pack his chestnuts in moss or damp sand, soon after they fall from the tree, and place them in a cool cellar until the ensuing spring, and then plant them out, I think he will have little difficulty in growing them."

Mr. Norton Case, Granville, Ohio, says—"In the fall of '42, I gathered some chestnuts, so superior in beauty to any I had ever seen, that I thought to raise some trees, in hopes to get some like the parent. I took leaves and muck from the woods, mixed chestnut leaves and muck in a leaky box, (sufficiently tight to keep out the mice, but not the rain,) and put them on the north side of the fence. In the spring I prepared my ground as I would for beets, (deep and mellow;) when the chestnuts began to sprout, I planted them in rows an inch deep, spreading over another inch of leaves and muck. All the good and sound nuts grew, but they grew very slow the first three or four years. The last two years they have grown faster, being now from three to four inches through at the but, and from ten to twelve feet high. They were transplanted at two years old, without loss. Some have been sent to a distance of 100 miles, but with what success I have not learned. I presume the bad success your correspondent has had, is from the nuts getting dried. Mine were put in the muck the day they were gathered. I have grown the walnut in the same way—both the hickory and black walnut."

Cutting and Curing Grain.

Experiments have pretty well settled the fact that wheat should be cut while the grain is in the state called *doughy*. This conclusion was, indeed, reached several years since in regard to wheat, but it has by the experiments of Voelcker, been clearly shown to be applicable to oats; (See Cultivator for 1850, p. 260,) and it is also known to be equally applicable to Indian corn. At first, it was feared by some that there would be a great shrinkage of the grain cut in this stage, which would amount to absolute loss. It is proved, however, that the sap of the stems or straw, is sufficient to perfect the grain, and that the grain, under such circumstances even possesses some valuable properties which it has not when it remains uncut till dead ripe.

Mr. Colman states that he found by many inquiries in England, that "the best rule for harvesting is not when the stalk below the head has changed color, and the circulations have consequently ceased, but when the grain, though it has ceased to yield any milk upon pressure, is yet soft." The advantages of cutting at this stage are briefly given as follows: "Wheat cut early affords more grain, yields less bran, makes better flour, wastes less in gleaning, gives better straw, and enables the farmer to do the work more leisurely."

C. W. Johnson, in the *Farmer's Encyclopedia*, observes—"Grain, if not reaped until the straw is wholly yellow, will be more than ripe, as the ear, generally, except in the late seasons, ripens before the entire of the straw, and it is observable that the first reaped usually affords the heaviest and fairest sample. The indications of ripeness in wheat are few and simple. When the straw exhibits a bright golden color from the bottom of the stem nearly to the ear, or when the ear begins to bend gently, the grain may be cut. But as the whole crop will not be equally ripe at the same time, if, on walking through the field and selecting the greenest heads, the kernels can be separated from the chaff when rubbed through the hands, it is a sure sign that the grain is then out of its milky state, and may be reaped with safety; for although the straw may be green to some distance downwards from the ear, yet if it be quite yellow from the bottom upwards, the grain then wants no further nourishment from the earth, and if properly harvested, it will not shrink. These tokens will be found to sufficiently indicate the ripeness of wheat, barley and oats; but that of rye arises from the straw losing some of its golden hue, and becoming paler."

Some of the most valuable experiments which have been reported on this subject, are those of Mr. Hannam, in the 12th and 13th volumes of the *Quarterly Journal of Agriculture*. The trials were made under his own direction, and with great care. He cut samples of wheat at five different times, as follows:

No. 1, was cut a month before fully ripe.
2, " three weeks "
3, " two weeks "
4, " two days "
5, " when fully ripe.

Of these lots, 100 pounds of grain of each yielded as follows:

No.	Flour.	Seconds.	Bran.
1,...	75 pounds, ...	7 pounds, ...	17 pounds.
2,...	76 "	7 "	16 "
3,...	80 "	5 "	13 "
4,...	77 "	7 "	14 "
5,...	72 "	11 "	15 "

Thus it appears that No. 3, which was cut two weeks before it was fully ripe, was superior to the other lots; giving more per bushel than No. 5, (cut when fully ripe,) by 6½ pounds of flour, and a gain of about fifteen per cent on the flour of equal measure of grain; 100 pounds of wheat of No. 3, makes 80 pounds of flour, while 100 pounds of No. 5, yields 72—showing an average of eight per cent in favor of No. 3. In grinding, it was found that No. 5 ground the worst—worse than No. 1. There were in No. 5 a greater quantity of flinty particles which would not pass the bolt, than in any of the other lots. The bran from No. 5 was also much thicker and heavier than that of No. 3.

Mr. Hannam concludes, therefore, that in cutting wheat two weeks before it is fully ripe, there is a gain of fifteen per cent of flour upon equal measures, a gain of fourteen per cent in the weight of straw, and a gain of 7s. 6d. sterling in the value of every quarter (560 lbs.) of wheat. Many trials have been made in this country in cutting wheat at various stages, and the results agree, generally, with those above given.

But when grain is cut before it is ripe, it is necessary that it should undergo a process of curing, before it can be safely stored in the barn or stack. Hence it is usual to place the sheaves in shock for several days, according to the state of weather, or the degree of moisture in the straw. But it sometimes happens that loss is occasioned, more or less, by the sprouting of the grain while it stands in shock—especially in warm, showery, or damp weather. This was the case last year, in the western part of this state, and it is not unusual in other states. To guard, as well as possible, against loss from this cause, the shocks should be put up in the best manner. They have been made of various forms; but those affording the most effectual protection are described in the *Pictorial Cultivator Almanac*, belonging to our current volume, page 10.

Caps, made of cotton cloth, have been used for protecting hay, while in the process of curing. We have several times described the mode of making and using them. (See Cultivator for 1848, p. 286—for 1849, p. 260—for 1850, p. 315, 380.) They cost but little, and have proved very useful in protecting hay from rain—many farmers who have used them, have derived an advantage in one season, more than sufficient to pay their cost, and the caps will last, with proper care, many years. We see no reason why they might not be used to profit in curing grain in shock.

Stephens Farmer's Guide.

Analytical Laboratory, Yale College,
New-Haven, Conn., May 28, 1851.

Messrs. Editors—I place the title of the above work at the head of this letter, and propose to make some comments upon it, with the intention of leading our farmers to an appreciation of its value. As my name is connected with the book, it may be thought that my writing in its praise is somewhat indelicate, but I can free myself from this charge by saying here,—that I never expect to derive the least pecuniary benefit from its circulation, having no interest whatever in its sale, except that which arises from a strong desire for the spread of agricultural knowledge. The book is owned and published by Leonard Scott & Co., of New-York, in connection with the Messrs. Blackwood of Edinburgh. My part has been the appending of some notes and commentaries, limited in their extent by the already voluminous character of the work.

Under these circumstances, I have felt that there is no impropriety in my calling some attention to this work, in addition to those commendatory notices which have already appeared in your columns. It is now rapidly approaching completion, and before this letter is printed, is expected to be entirely finished. The American public will then be in possession of one of the most completely and beautifully illustrated books issued from any press, overflowing with matter and detail, and accurate in every department of practice, for the small sum of $5, an almost unexampled instance of cheapness.

In recommending the perusal of this, or any other standard foreign work on agriculture, we are always met in the outset by the objection, that this author has written of practices and theories which are applicable to another country, and not to ours. It is said—that these foreign writers will only lead us astray, will only recommend systems that are totally inapplicable here. Now this is partly founded upon reason. If we were to take Mr. Stephens, or any other foreigner for our guide, and follow his directions implicitly upon one of our farms, the result would probably be quite disastrous; this, however, would not prove that the system was not a good one for another country, and that parts of it, or modifications of it, might not with advantage be adopted here.

I maintain that the great principles which ought to guide the farmer, are the same the world over. He who cultivates the soil of a high northern climate, and he whose fields are bright with the ceaseless verdure of the tropics, must be guided, if both are good farmers, by the same great laws. Climate exercises a controling influence upon the character of the crop, and upon the kind of cultivation which it is most profitable to adopt; so also does nearness to, or remoteness from, the great markets. The appearance of farms then, the implements used, the crops ripened, all differ most materially, and yet I reiterate the assertion that at the bottom the same rule governs in every case.

All cultivated plants, whatever their nature, draw a portion of their food from the soil; if they are carried away year after year, the supply of certain substances in the soil becomes greatly reduced, so that finally the crop will not grow, excepting in places where fertility is constantly renewed from foreign sources. Here then, is a great rule, applicable to all soils and climates—the farmer may be sure that his land is becoming poorer and poorer, unless the loss occasioned by the carrying away of crops is in some way made good. This is one case; I might mention many more. The true principles of mechanical improvement in the soil, and of cultivation generally, are the same in every country; so are the principles involved in the breeding and feeding of animals, the composition of manures, &c. &c.

Thus it is, that we may derive benefit from a careful study of the habits, methods and general systems of British farmers. Some of them are, without doubt, the best in the world; they have made their profession a study, have become thorough converts to the idea of constant progress, and have brought large capital to the carrying out of improvements. But it would be worse than useless, even ruinous, for the American farmers to follow blindly the course here laid out for them. In the present condition of our country, such *extremely* high cultivation could not be profitable, because it would come into too direct competition with the cheap and almost boundless lands of the far west.

Nevertheless, our farmer may follow his British *Guide* through the whole field of his labor, getting a hint here and an idea there, and new facts everywhere; constantly wiping away old prejudices, and discovering that we have not by any means confined all knowledge to this side of the Atlantic, or if *very candid minded,* that we are really, as a whole agricultural people, years behind our British ancestors.

Such especially will be the results, after reading this work by Mr. Stephens, for it is unique in the long list of agricultural publications. It is really a literary curiosity, in the completeness and fullness of its details and illustrations. Mr. Stephens seems to have brought to his work a mind so full of his subject, as for the time to banish every thought of foreign topics. His zeal in explanation and illustration never flags, and his mind embraces every minute detail of the simplest operation, with seemingly the same degree of interest that attaches itself to the most important and attractive departments. This feature of the work has been criticised, by those who already possess a considerable share of knowledge upon the subjects which he teaches, but it is in reality precisely that which renders it most valuable to the beginner; he finds the minutia of everything fully gone into, and if he wishes to know the manner of performing any work properly, collects all that he can need in the way of explanation. These little hints relative to the details of work, are just what are omitted in most books, and in a majority of cases new modes of working or new implements fail at first, just because such seemingly unimportant directions have not been given.

Few writers on kindred subjects, have studied so faithfully as Mr. Stephens must have done. Whether it is stuffing birds or sausages, or cooking a steak, or plowing and harvesting, it is all alike to him; he takes each branch or subdivision, and devotes himself to it without thought of trouble, time, or labor; his only aim is to give a full, complete, and faithful account. A practical farmer himself for many years of his life, he has a thorough knowledge of the young farmer's wants, and has applied himself to his task with no less perseverance and thoroughness than enthusiasm. How great this task has been, the volumes now in question serve to illustrate, but not until the reader has gone over it all carefully, can he fully appreciate the labor which has thus been so well performed.

Most works that enter so fully as this does into detail, are extremely dull and tedious, so much so as to repel all but the real student, or those who seek some distinct item of information. There is however no such defect to be found here; on the contrary the book is in many parts interesting even to a general reader. This I explain by returning to the peculiar quality of mind to which I have before alluded, that leads the writer to throw himself into the present subject, whatever that may be. When we find this peculiarity coupled with a wide scope of general knowledge, and the thorough command of any particular department of science, a mind of no ordinary interest is the result. It is thus with Prof. Agassiz, now of Harvard College; he illuminates his subject and renders it attractive, no matter how trivial in itself, by the fire and enthusiasm of his own genius: large audiences who would in all other cases turn away in disgust from such themes, listen in rapt attention for hours, while he enlarges upon a tadpole's tail or a bullhead's care of her young.

Thus it is in a considerable degree with the writings of Mr. Stephens; we are often carried with interest through what would otherwise be very dry fields, by the enthusiasm and earnestness of the author; this acts as a spell upon us, and we clear out the cow stables in company with the greatest satisfaction, cut turneps into particular sized pieces, inspect the edges of cutting tools, oil the grindstone, and clean the harness, with perfect readiness; the writer is evidently for the time engaged in these operations heart and hand, and before we know it we are fully absorbed also. It is a great triumph to make so large, voluminous, and eminently practical a work, as the Farmer's Guide, so entirely readable from beginning to end. I think I hazard little in saying that not another man in Great Britain could have done it as well.

These opinions relative to the value of this work, and as to the attractiveness of its style, are not singular on my part, for the English press has been almost unanimous in its tone of approbation, and the sale for so costly a series has been uncommonly large. I recommend it therefore without hesitation, to the careful attention of all American farmers who desire to see how broad and noble a field, the practice of their profession may be made to cover.

At the very commencement they will find an abstract view of the applications of science, that will richly repay the whole price of the two volumes; and so on to the end, will constantly discover points and suggestions of great value. It is true that there are many features in improved British farming which will probably never be adopted here, but in the leading rules of conduct we shall gradually approximate more and more, as our population increases, and capital becomes more concentrated.

I have endeavored in my notes to briefly call particular attention to such details and practices, as seemed to me particularly adapted to our country, and to make such comparisons in our own favor or otherwise, as most naturally suggested themselves after a rather extensive acquaintance with the practical agriculture of both countries. No intelligent farmer can rise from the perusal of these books, or of any considerable portion of them, without feeling that he has gained a vast amount of useful information, and also perceiving that we as an agricultural people have an immense work to do.

I think that American farmers owe something to the Messrs. Scott, for the style of this publication and for the spirit which has led them to assume its risk. I hope that they may in the end be amply remunerated by its sale. Yours truly, John P. Norton.

Pulverization of the Soil.

The fact that plants can only receive their food in a soluble state, cannot be too strongly impressed on the mind of the farmer. He should also be acquainted with the agencies which bring the crude elements into this state of solution. Hon. L. C. Ball, in an address before the Rensselaer County Agricultural Society, gave some good illustrations of this subject, in speaking of the "mechanical preparation of the soil." He explains the importance of this in reference to the preparation of soluble food for plants, and observes—"All these operations and results which I have endeavored to explain, take place no where else than upon the surface of the earth; *in the presence of light, heat, air, moisture and electric fluids*; subject to the separate influence of each, and exposed to the combined action of all. At that moderate distance below the surface, at which these influences cease to operate, all tendency to decomposition and decay, and all attempts at changes and alterations of form and substance, are arrested. The same elements are doubtless every where diffused, but they are locked up by the conditions of their original combination, and will so remain until brought to the surface, and their prison doors opened by some agent already free. Bury this piece of rock below the influence of heat and moisture, and unless thrown up by some convulsion of nature, it will remain there unchanged for ever. Place it upon a cultivated field, let it be turned by the plow, and exposed to the decomposing agents existing in the air and in the soil, until it is pulverized, and in a few years it will appear upon your table in some article of food, or upon your person in the garments you wear, or be sent to market in the form of beef and pork, and exchanged for tea and sugar, or silks and laces."

◆

Fattening Cattle in Dutchess County.

Eds. Cultivator—The business of fattening cattle by the farmers of this county, for the New-York market, has been followed for upwards of twenty-five years, and for the last three or four years has received a great impetus from some of our most wealthy and influential land-holders—they adopting it, instead of keeping fine wooled sheep, as formerly; their object being to make more money. But the all important question—"Is it a money-making business to fatten cattle at all?" seems not to have been fully weighed. That the time has been when this business was one of great profit to those engaged in it, is not doubted. Before the countless acres of the inexhaustible west were opened to the sun-light, before the cultivated grasses were strewn broad-cast over the boundless prairies, and before the iron horse ran his race of speed from state to state, and from lake to ocean, bearing in his rapid flight loads of the "Yankee Nation," who, planted on that teeming soil, send back to us not "Yankee Notions," but the substantial things of life, the same that Dutchess used to produce and grow rich upon *before* all this occurred. Now she struggles —not to make those articles, for that were in vain, but to keep *alive* until those "better times" for which we have so long and anxiously looked.

To turn this struggle into one of success, is an object greatly to be desired. In order to accomplish this, it becomes necessary to carefully examine the position occupied, and in case it should prove to be one left behind by the "spirit of the age," then should our hard-working farmers leave it also, and adopt some business more consonant with the times in which we live. Then we repeat the question—"Is it a money-making business to fatten cattle at all in this county?"

The usual course pursued is to purchase steers in the fall, wintering them on hay, and allowing them the choicest of our pastures during the following grass season. Another method, of feeding corn-meal, will be considered in another article. A medium sized steer of good quality, may be bought from the droves of lean cattle for $30, and after 12 months good keeping may weigh 750 pounds New-York weight, or the four quarters. He will require two tons of hay to keep him 183 days, and will also require 182 days pasturage, worth here 5 cents per day, or 35 cents per week. Thus it foots:

1849, Oct. 1st., one steer,.....................	$30 00
Nov. to May, two tons hay at $5.50,.....	11 00
May to Nov., 182 days pasture, at 5 cents,	9 10
Commission for marketing,.............	2 50
	$52 60
1850, Oct. 1st., by 750 pounds beef at 7 cents,..	52 50
Loss,............................	$00 10

It will be perceived that the interest on the capital invested is not included, as that and the attendance should be balanced by the manure. Hay is worth $15 per ton in New-York, and it can scarcely be said that the home estimate above is too great. Some may argue that they feed straw, and save thereby; but that is worth 6 cents per bundle in New-York, and a steer will eat two or three bundles in a day. Corn-stalks, than which there is no better food for cattle, are worth two cents per bundle here, and a steer will eat four bundles a day if kept as he should be. Few farmers fatten a steer to the acre of their pasture land—where too, each acre would produce two tons of well cured hay, if mown instead of being pastured. Then, surely, the estimate of pasture cannot be too high. But low as our estimates are, we find a balance against us, and he who makes more money at fattening cattle, than at other branches of business, must be a *lucky* man, indeed. With a railroad on our eastern border, and another on the west, that give access to the best market in the Union in the short space of three hours, and three hundred and sixty-five times in a year, we cannot but express the opinion that this slow and uncertain business must give way to that of a more profitable nature. Amenia.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Drying Fruit.

A correspondent inquires for a description of the best mode of drying fruit. While so much attention is given to the cultivation of fruit, there still exists a great deficiency in good, cheap, and expeditious methods of drying—which by converting perishable property into a condition for long keeping and easy transportation, may greatly increase both in extent and profit, the culture of the highest flavored sorts.

Dried apples and dried peaches already constitute a considerable article of commerce. But their *quality* is immeasurably inferior to that which might be attained. The same difference in flavor exists between an unpalatable seedling and the most highly improved grafted variety, whether they be fresh or dried. Yet the poorest apples are usually selected, simply because the dried fruit is bought by the pound, and not for its excellence. Late or inferior peaches are chosen, because their owners have no other use for them; when, besides the inferior flavor of the late seedlings so largely used, the cool damp weather to which they are exposed while drying, does the work in a very imperfect manner, and a half-decayed flavor is often mingled with that of the fruit itself. If dried at all in the open air, it is of much consequence that early sorts, both of apple and peach be selected, that the benefit of a hot sun may be secured. Why is it not as easy to plant and raise early prolific sorts, that will ripen at a time when two days of hot sun will dry them, as later sorts, which will scarcely get dry at all in the open air?

A good and faultless mode of using artificial heat appears not to have been yet practiced. The great and existing deficiency is the want of a *free circulation* of the heated air. Hence the reason that the use of flat boards and shelves is usually attended with greater or less decay. Light wooden lattice-work is better, but still but imperfectly admits a free circulation, without making the slits too wide to prevent the dried fruit from falling through. Cheap netting of light twine is a still further improvement; an easy mode of making it is thus described by a correspondent of the Michigan Farmer:—"Take common carpet yarn, warp it for two or three yards' length, just as you choose; use a five or six quarters reed; in drawing through the reed, use every third or fourth space between the teeth of it; to insure strength, double your thread occasionally, and in weaving, beat two or three threads closely together, and then more open, alternately; when taken from the loom, fasten it to a light frame, and it is ready for use." Frames covered with millinet would probably be found well adapted for drying the smaller fruits.

Rooms or buildings made for drying by artificial heat, must admit a very free ventilation. We have found that when fruit on latice shelves is placed near a fire or under a stove, where there is no current of air, and where heat is imparted solely by radiation, it becomes heated without drying, for there is no current to sweep off the moisture about it. But when suspended immediately over the stove, where the heated air is constantly ascending, the process goes on rapidly and perfectly. When thus dried, it is nearly white in color, and retains its flavor unimpaired, and is incomparably better than a great deal that we often see, which is brown with age, and spoiled with incipient decay, before the moisture is all expelled by the tardy process to which it is subjected.

The following would probably be a well arranged drying-room for this purpose. Let the shelves, made of netting stretched on frames, occupy the interior or central portion, of the room, one above another, at free intervals, and leaving sufficient space for the person in attendance to pass freely round on every side, next to the wall. This would be not only more convenient, but admit a better circulation of air, than if the shelves were placed against the wall. The room might be heated with a small stove, the pipe of which should at first pass horizontally as near the floor as possible, and afterwards ascend to cause sufficient draught. This arrangement would heat the room far better than to place the pipe overhead, as is too often practiced; for in the one case, the heat will rise through the whole height of the room, and benefit all parts alike; while in the other, it only warms the upper part, and neither benefits the lower portions of the room nor causes a circulation of air. The room must be well ventilated at each end near the top, to let off the vapor constantly arising; for even fresh cool air is better than a hot air charged with moisture. The ventilators may be covered with wire-gauze when it may become desirable to exclude flies, wasps, &c.

Peaches for Drying.

[A female friend, who is a thorough practical horticulturist, has kindly furnished the following useful notice, which, like every thing else from her pen, is the result of more than ordinary judgment and experience.]

Having been in the practice of drying large quantities of fruit for family use, I have been led to observe which kinds yield the greatest proportion, from a given amount of fresh fruit. I find that Kenrick's Heath is by far the most productive variety for this purpose. It is a large green fleshed peach, ripening the last of 9th mo. (Sept.) with us, combining every desirable quality. In the autumn of 1850 three bushels of fresh peaches, produced half a bushel of dried ones. Five bushels of apples, I think, is what we allow to make one of dried fruit. Then, the labor is not more than *half* as great, to prepare the peach, as it is the apple—no *coring* is necessary,—only pare it, split it in two, and lay them on boards, in the oven after taking out the bread; leave the door open to permit the moisture to evaporate, and in two days they will be ready to put away. This has been my experience for the two seasons past. So highly do I esteem this variety, that I have budded several hundreds, with the intention of planting an entire orchard of them. They are even *more profitable* than the apple, and come much sooner into bearing. E. S. *Hillside, Wayne county, N. Y.*

To repel the Black Ant.

R. G. PARDEE, of Palmyra, N. Y., informs us that after trying the application of a large number of offensive substances, for repelling the black ant from his borders, he has found *tanner's oil* to be completely effectual.

Answers to Inquiries.

Transplanting Strawberries.—"When is the best time to transplant strawberries, after it has been omitted in spring?" *G. W. C.*

As soon after the bearing season as practicable. The earlier they are set out, the better will be the growth they will make before winter; and the more perfect will be the crop next year.

Many persons lose all the plants they remove at midsummer, even after laborious watering, by not doing the work right. As soon as the plants are taken up, the leaves should be all removed but the small central ones not yet half expanded; the roots should be immersed in mud, and the plants then set out; the earth should be settled about them by pouring on water, and then fine earth drawn around them to form a mellow surface. A coating of fine manure, two inches thick, should then be placed about them, which will keep the ground moist, and prevent baking if any subsequent watering is needed, which will scarcely ever be the case. On suitable soil, not one plant in twenty will be lost.

Succession of Pears.—"For how many months of the year can a supply of good pears be had, and what would be a good selection for this purpose?" *W.*

In the northern States, pears may be had for nine months of the year without difficulty, if sufficient attention is given to selection and culture. The earliest pear is the *Amire Joannet*, small, productive, and third rate. A week later is the *Madeleine*, a good variety, ripening with the wheat crop. The Summer Doyenne ripens about the same time, and is nearly as good,—both being eminently desirable sorts. A week or two later are the *English Jargonelle* and *Skinless*, pears of good but not of the highest quality, but better than many of the "far brought, and dear bought" varieties of which so much has been said. The Jargonelle is worthless without house-ripening, and the Madeleine is greatly improved by it. Next to these follow the *Bloodgood* and *Dearborn*, then the *Rostiezer* and *Tyson*, which are the two best summer pears for quality. The only objection to the Rostiezer is its small size; it holds the same place among summer pears that the Seckel does among those of autumn; and the only objection to the Tyson is its tardy bearing. The *Bartlett*, which commences ripening at the close of summer, is far famed for its size, productiveness, and fine quality, and the free growth and early bearing of the tree. Among the best sorts for early autumn, are the *Washington*, *Bilboa*, *St. Ghislain*, *Andrews*, *Belle Lucrative*, and *Heathcot*, all of medium size and fine quality. After them follow *Flemish Beauty*, *Louise Bonne of Jersey*, *Onondaga*, *Autumn Paradise*, *Beurre Bosc*, *Stevens' Genesee*, and *Urbanisti*, which are all above medium in size, and *Seckel*, the highest flavored of all pears, which is small. A little later are *Dix*, *Beurre d'Anjou*, and *White* and *Gray Doyenne*. The two latter are unsurpassed for their good qualities, in all localities adapted to their growth. The *Diel* and *Winkfield* ripen late in autumn, extending into winter. Among the best early winter sorts are *Glout Morceau*, *Winter Nelis*, *Aremberg*, and *Beurre Gris d'hiver Nouveau*, or *Gray Winter Beurre*. The *Lawrence*, a new sort, also promises very highly. *Passe Colmar* (which should be well thinned, and have good culture) and *Prince's St. Germain*, are good pears for mid-winter· and *Easter Beurre* the best long keeper that has been tried to any considerable extent in this country. To ripen into a high flavor, the latter must have a very rich soil, and be well mulched in dry seasons. Specimens of this sort have sometimes kept nearly into summer, but such specimens are not commonly the best ripened, and are imperfect in flavor. An indispensible requisite to the successful keeping of winter pears, is the right kind of a cellar; which should be cool without freezing, moist enough to prevent shrivelling on one hand, and rotting on the other. From this, as is well known, they are to be removed into a warm room to become soft, rich, and fine for eating.

Labor and its Pay.

The New-England Farmer gives a good example of the successful management of an orchard. When the trees were an inch in diameter, manure was applied, and they were kept dug around, the circle thus cultivated being yearly increased in size as the roots extended in length. This circle has now become twelve feet in diameter. Chip manure, bones, ashes, and other fertilizing substances, are often applied. The result of this labor is, that the owner obtains yearly large crops of beautiful and excellent fruit, and obtains more money from his orchard than many farmers do from all sources, although this does not constitute his main business.

Garden Economy at Midsummer.

From almost every kitchen, there is a large amount of slops, soap-suds, and other waste liquids thrown away, disfiguring by a fœtid puddle some half concealed spot of the kitchen yard. It is always as pleasing as it is rare, to see the back yard kept in as clean, neat and finished condition as those portions of the premises kept specially for exhibition to the eye. Happily there are a few, who by a well managed economy in this particular, not only avoid all offensive odors about their dwellings, but contribute towards the vigorous and healthy growth of their garden vegetables and fruit trees, by the timely irrigation thus given them. We should like to exhibit to some who have been neglectful, the kitchen court of an acquaintance, which will challenge for neatness and cleanliness, any of the front yards of his neighbors.

Irrigation simply in itself is highly beneficial to most garden plants; the benefit is increased by the fertilizing matter often contained in waste water. On light or gravelly soils for example, a free supply of water doubles the growth of the raspberry, and greatly improves the size and flavor of the fruit; and strawberries, as the fruit approaches maturity, are almost incredibly benefitted. A cultivator in one of our villages, applied water freely to his vegetables during the past summer. "In ten days," he says, "early potatoes grew two-thirds in size." He had never obtained good potatoes before; other crops were greatly benefitted.

In applying wash to fruit trees, it will be of little use to pour it on a narrow spot just at the foot of the trunk, where but few of the young roots can receive it, but it must be dashed on broadcast, as far as the circle of roots extends.

An acquaintance has procured a wheelbarrow. furnished with a broad tire, that it may pass without sinking, over mellow ground, and a barrel with a hinge-lid, into which all slops are thrown, and wheeled on the garden as often as necessary. If the odor of the barrel becomes too offensive, a quart or two of charcoal-dust thrown in at once corrects the evil

◆

Timely Hints

Many cultivators, who devote a fair proportion of attention to their fruit trees in spring, forget and almost wholly neglect them at mid-summer. To such we would briefly suggest the importance of keeping a constant eye to them, in order to preserve them in good cultivation, and to prevent disaster from disease or the attacks of enemies. A tree will not thrive, unless it is widely and deeply spaded about, or otherwise kept with a clean and mellow soil. For newly transplanted trees, mulching, or covering *heavily* with straw or other litter, is of great importance in the hot season. On dry soils, the *fruit* of the raspberry is greatly benefitted by mulching. With gooseberries, a *deep* littering is indispensible.

If the *black-knot* should make its appearance on the plum, all the affected parts should be immediately cut off and burned. This, if repeated when necessary, will keep the trees clear of the evil. The labor of watching and cutting, will not be a tenth part as much as every gardener willingly devotes to the culture of a crop of cabbages. Pear trees affected with the blight are to be similarly treated.

Newly transplanted trees, with tall naked stems, are often injured by the hot sun striking upon them, especially at points which happen to incline from its rays. They may be protected by two narrow boards nailed together, so as to enclose the trunk of the tree in the angle. Stiff white paper wrapped loosely around and tied with twine, serves a good purpose.

◆

Hardiness of the Osage Orange.

Benjamin Hodge, of Buffalo, gives in a late number of the Horticulturist, an unfavorable opinion of the Osage Orange as a hedge plant for the north, derived chiefly from the following facts. The first season the growth was nearly two feet, the whole of which was killed by the subsequent winter, the roots remaining uninjured. The second year (1850) shoots were thrown up three or four feet high, from one to two feet of which were killed last winter, although not a severe one.

After experiments continued for more than *ten years*, in a climate where the thermometer is not unfrequently 6 or 7° below zero, the writer of these remarks has been induced to adopt a different opinion. Solitary trees, it is true, are often one-third or one-half killed, and young seedlings very often down to the ground ; but there are three substantial reasons why this liability is not a formidable objection to a hedge. In the first place, the killing does not extend further down than the young hedge should be cropped or sheared; secondly, when growing thickly together, the shoots protect each other in a remarkable degree from the effects of the weather; and thirdly, when kept sheared, the growth ceases to be succulent and tender, and the shoots are not killed to any extent whatever. In a hedge which has stood two years, partly untrimmed and which was made of three-year plants, the long and succulent shoots which had shot up alone to some height, were observed this spring to be killed at top; but the smaller and thicker shoots below, were in leaf to their utmost extremities. The fact that a growth of three or four feet was made the second year as above stated, indicates a fertile soil and a consequent succulence not favorable to endurance of intense frost; the result is very different on a soil of moderate fertility and with cropped shoots.

The wall of impenetrable armor which the Osage Orange presents by its profusion of sharp thorns, renders it particularly valuable as a boundary for fruit gardens, and it is believed that its less rapid growth at the north will remove the objection sometimes made to it in the middle and western states, of drawing too strongly on the fertility of the adjacent soil.

It is not expected that in frosty valleys and in such localities as are usually too cold for the peach crop, this hedge will answer; but in other places there is so strong reason to believe its fitness, that further experiments to say the least are fully warranted.

◆

The Fame of a Name.

The celebrity of the Virgalieu pears of western New-York in some of the eastern markets is well known. The value of this good name is quite amusingly shown by a story related by L. F. Allen in the Horticulturist. Two gentlemen of the Genesee country sent each several barrels of Virgalieu pears to be sold in New-York. One of them called his pears the "Virgalieu," the only name *he* knew; the other, to be precise, marked his "White Doyenne." In a few weeks the consignee returned an an account of sales. The Virgalieus brought $12 per barrel; the White Doyenne's, $6. The seller gravely remarked that they were both fine specimens of pear; but if the owner of the Doyenne's had only sent his Virgalieus as his neighbor did, he could have sold them for as much!

◆

Experiments with the best Strawberries.

M. G. Warner, well known as the leading strawberry culturist at Rochester, reports the following results in Moore's Rural New-Yorker. The soil was only good plowed land.

The *Hovey's* produced the largest berries, *Burr's New-Pine* next, Columbus next, &c. The Rival Hudson yielded the greatest quantity, the New Pine the next, Columbus next, Hovey's next. According to the dimensions of the bed, and the amount of the crop given, the Rival Hudson must have yielded at the rate of 260 bushels per acre.

◆

The William's Favorite Apple.—The handsome appearance and good quality of this early variety, have made it a great favorite in some parts of New-England, but the high culture it requires will lessen its value for general cultivation, until orchardists learn to give more attention to their trees. S. W. Cole, of Boston, says, "When perfect it is very handsome and saleable. One cultivator in this vicinity has put a cart-load of manure around a tree yearly, and he has sometimes sold the fruit for five or six dollars a barrel."

Pear Blight.

. J. Downing, in a late number of his Horticulturist, after stating that the pear blight is caused by the extremes of heat and cold in our variable climate, says, "The remedy is to wind straw ropes around the stems and larger branches, and mulch the surface of the ground over the roots. A cultivator of our acquaintance, who lives in a blight district, and who made wry faces for years over the blight, has become a cheerful and happy man since he has practiced this simple method."

NEW PUBLICATIONS.

Lessons in Modern Farming; or Agriculture for Schools; containing Scientific Exercises for Recitation; and Elegant Extracts from Rural Literature, for Academic or Family Reading. By Rev. John L. Blake, D. D. New-York: M. H. Newman & Co.

This work is from the same pen as the "Farmer's Every-day Book," published a year ago, and which we are pleased to learn, has been well received by the public. The author seems to have a good understanding of the wants of our rural population, in regard to general education, and the kind of books best fitted to inspire a taste for agricultural pursuits. The volume under consideration is composed partly of original articles, and partly of selected ones. They are of a character well calculated to interest the rising generation of farmers, and to infuse more elevated ideas in regard to their vocation. The book is of a convenient form and size for the use of schools—containing upwards of 400 pages, 12 mo.—is neatly printed and well bound.

Agricultural Report of the Commissioner of Patents for 1849–50. We have lately received a copy of this document. It contains a large amount of valuable matter, well arranged. We should have been much interested with many of the articles, had we not read them before in the *Southern Cultivator* and the *Genesee Farmer*, which had been the mediums for giving them to the public before the Report was issued.

A Treatise on the History and Management of Ornamental and Domestic Poultry. By Rev. E. S. Dixon; with large additions by J. J. Kerr; illustrated with original figures of Fowls. Philadelphia: E. H. Butler & Co.

Of the making of poultry-books there will probably be no end, at least so long as the "hen fever" continues. This is the fifth work on this subject which has been published in this country within the past and present year, besides the new editions of former American works of this character, and the importation to a considerable extent, of several of foreign origin. The work above mentioned purports to be a reprint of the highly popular work of Rev. Mr. Dixon, first published in London in 1848, "with additions" by Mr. Kerr. The preface opens thus: "In offering to the public Mr. Dixon's Treatise 'on Ornamental and Domestic Poultry,'" &c. But notwithstanding this, and the use of Mr. Dixon's title, the work contains, comparatively, but a small part of Mr. D.'s. It is, in reality, a *mixture* of selections from Mr. Dixon, with remarks of Mr. Kerr, and letters from the owners of fowls whose "portraits" are said to be given. But the descriptions of varieties do not agree with those of Mr. Dixon, even where Mr. D.'s arrangement is ostensibly followed. Thus Mr. Kerr represents the Hamburgh fowl as a *top-knot* variety, giving a corresponding cut—whereas Mr. Dixon applies the term only to a kind of fowls which never have this appendage. But we cannot here go into particulars—shall probably take another occasion for this purpose. So far as regards mechanical execution, the work is entitled to much praise—it is decidedly superior to any which has been got up in this country, especially in the style of the engravings, many of which are highly creditable to the artist.

The Old Red Sandstone; or New Walks in an Old Field. By Hugh Miller. Illustrated with numerous engravings. Boston: Gould & Lincoln.

We have received from Messrs. Gray & Sprague of this city, a copy of this work. It contains many important geological facts, presented in a very interesting light. The strange hypothesis of transmutation of species, styled by its advocates "progression," is thus humorously shown off by Mr. Miller: "The descendants of the *ourang-outang*, for instance, may be employed in some future age in writing treatises on Geology, in which they shall have to describe the remains of the *quadrumana* as belonging to an extinct order. Lamarck himself, when bearing home in triumph with him the skeleton of some huge salamander or crocodile of the Lias, might indulge, consistently with his theory, in the pleasing belief that he had possessed himself of the bones of his grandfather—a grandfather removed, of course, to a remote degree of consanguinity, by the introduction of a few hundred thousand *great-greats*. Never yet was there a fancy so wild and extravagant but there have been men bold enough to dignify it with the name of philosophy, and ingenious enough to find reasons for the propriety of the name."

Harper's New Monthly Magazine. This valuable Magazine has entered on its second year. The first number of the volume, (that for June,) commences with "Summer," by Thompson, beautifully and appropriately illustrated. It is issued promptly on the first day of each month. Each number contains 144 octavo pages. The number before us indicates that the work will continue to be, as it has been, one of the best literary periodicals published. Harper & Brothers, New-York.

Wild Inconsistency.—Dr. Lee remarks, in relation to the present forgetfulness of agriculture by the government, "To Washington, as a *General*, there is going up in the federal metropolis, a monument which will cost over a million, and be five hundred feet or more in height; but to Washington *the farmer*, nothing is done except to permit the once fine estate at Mount Vernon to grow up in briars, bushes and pines, a harbor for wild beasts. What with the ten millions a year expended on the *army*, and the nearly twenty millions given to *politicians*, it seems extraordinary that a nation of farmers cannot afford a few dollars necessary to make the estate of the great and good Washington an experimental or model farm."

Plan of a Dairy-House.

Editors of the Cultivator—Accompanying this, I send you a plan of a dairy-house, which, doubtless, may not suit the fancy of every dairyman, yet it is thought to embrace as many conveniences as can well be embodied in a building of ordinary dimensions.

The plan is arranged for cheese making, though it will be found equally convenient for butter making, by substituting the furniture necessary for butter making for that described in the plan.

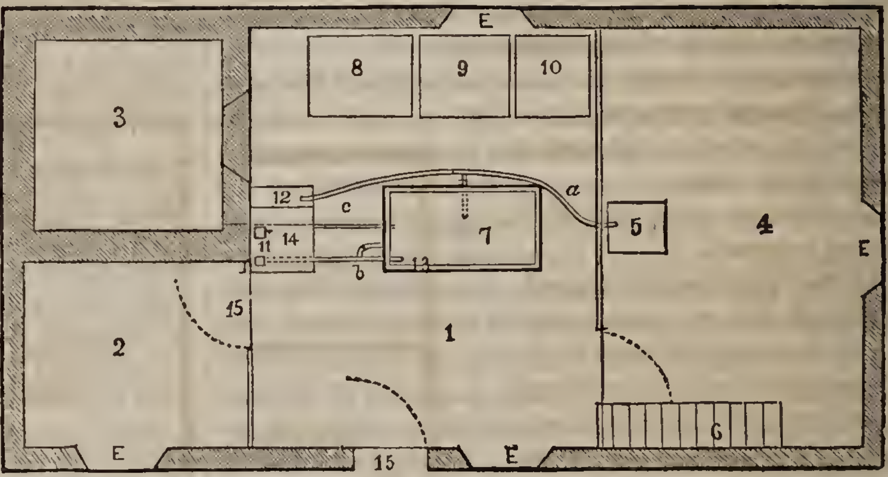
The building should consist of a cellar and one story above; the former, settled about three or four feet below the surface, provided with a drain, emptying if possible into the slop-tub in the cow barn. The wall of the cellar, and both stories, if convenient, should be of stone or brick, laid in lime mortar, and from 18 to 24 inches thick. The bottom should be of water-lime mortar, which will, when properly prepared, soon harden into a level smooth surface, quite imperishable, and be proof against water, and all rats and mice. The pipes, leading to and from the cisterns, &c., should be laid down before the floor is laid, and the mortar carefully fitted to them. The ice-house should be plastered with waterlime, and a little space left between the ice and bottom of the house, to allow the water a small space. The top and side walls of the dairy house should be finished with plaster, by which means a uniform temperature, indispensible to curing cheese well, is more easily secured. Size, 18 by 30 feet outside.

Explanation.—1. The room for making cheese in, 14 by 18. 2. Closet 10 by 10, provided with shelves, for storing all sorts of furniture.

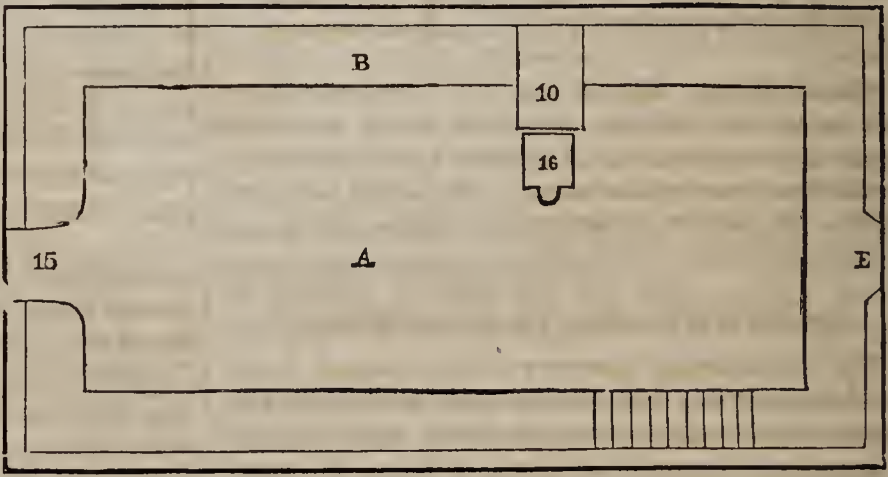
3. Ice-house, 10 by 10. This should be enclosed by double walls, and great care taken to make both perfectly air tight, and the space may be filled with sand, leached ashes, or almost any dry porous substance; but nothing is so good as air, provided it is not permitted to circulate in and out of the space, because air when not in motion is almost a non-conductor of heat; but since cold air is *heavier* than warm, if crevices are left near the bottom of the ice vault, the cold air contained in it, as soon as the temperature without is raised, flows out, and its place is supplied by warmer air passing in at the same crevices, and an equilibrium is soon restored between the temperature of the air without and within the ice-house, and the ice rapidly wastes away. For this reason the door should be double and open near the top of the vault, or it may have no door on the side and be filled and emptied through a trap door from the upper story. The lower floor must be high enough to draw water from it into the milk vat.

4. General store room and wood cellar, 11 by 18.

5. A stove or furnace of some kind, at which steam is generated for warming milk, heating water, &c. 6. Stairs to the cheese loft. 7. A tin cistern, large enough to contain as much milk as is to be set at once, surrounded by a wooden vat, leaving a space an inch wide at the sides, and nearly two under the bottom, for the introduction of water, either warm or cold, for heating or cooling milk. *a*. Lead pipe leading from steam generator to water in wooden vat, by which the milk is conveniently raised to any desired temperature. By means of the stops in the pipe, the steam may be let in to a water cistern (12) when not needed to heat the milk, by which hot water is always easily kept on hand for cleansing the various untensils. The end of the steam pipe should pass under the center of the cistern, and a board a foot square must be placed between it and the cistern to prevent heating the cistern too hot just when the steam is discharged. *b*. A pipe leading to the sink drain, by which both the whey and water are led off from the cistern, when the cheese is sufficiently scalded. The whey pipe should be large, not less than two inches, so that when the orifice is opened the whey will escape immediately, and thus prevent the curd from sticking together. To prevent the curd from escaping with the whey, a tin strainer of a peculiar form is inserted in the orifice. This strainer is a cylinder five inches in diameter, and as long as the vat is deep; this cylinder is perforated as full of fine holes as the strength of the metal will admit, and to the lower end of it is soldered a tin tube large enough to fit the orifice in the bottom of the vat. While the curd is setting, the orifice is stopped with a plug reaching the top of the vat, smaller at the upper end, and when the whey is to be let off, the tin strainer is slipped over the plug, and into the orifice, when the plug is removed, and the whey escapes; this may be done if the orifice is tapering, and the plug made to fit the lower



First Floor.



Second Floor.

part, and the cylinder the upper. *c*. Pipe leading cold water from the bottom of the ice-house to the wooden cistern, for the purpose of cooling the milk.

8. Cheese press.

9. Table for turning the cheese upon. This table should be about two inches lower than the press bed, and a wide board, upon small wheels, is placed upon the table, and the cheese placed upon it, after being pressed.

10. An elevation raised by cords, pullies, and weights, by which the cheese is elevated on the little car, to the loft, when, after being wheeled on the scales and weighed, it is run back, raised to any shelf, and wheeled around to any desired place. This saves all lifting, after leaving the press, till it is sold.

11. Pump or penstock.

12. Tub or cistern for heating water in, by steam.

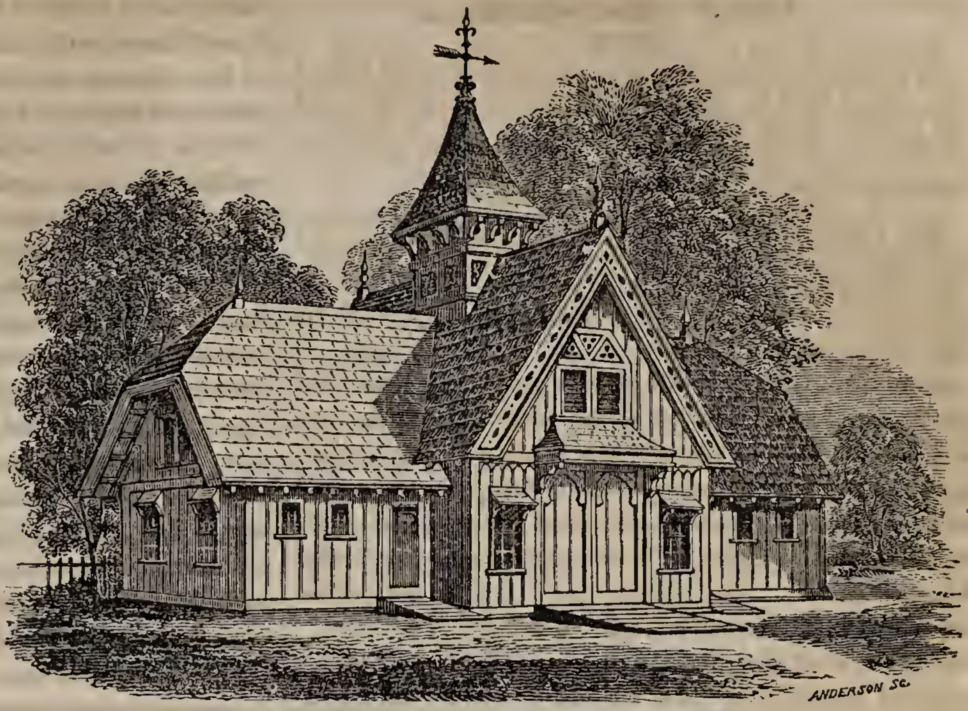
13. Wooden vat in which the tin vat is placed.

14. Sink provided with a spout, leading all slop, whey, &c., away.

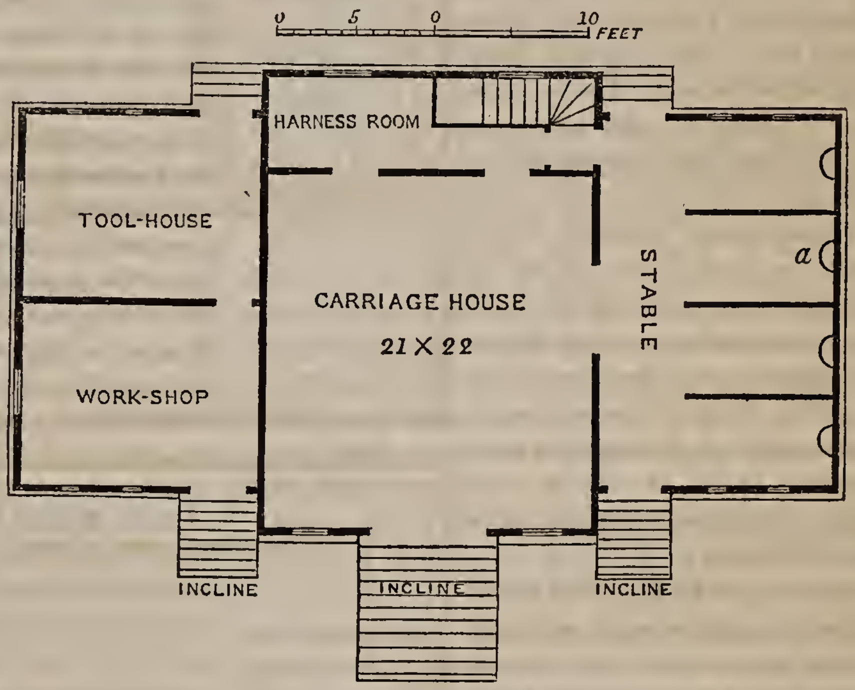
15. Doors—*E.* Windows.

Plan of loft.—A. Second floor. B. Shelves, 30 inches wide, extending around the room. As many of them can be arranged as necessary to accommodate the cheese.

There is but one window, and this should be provided with blinds and darkened in warm weather, to guard against all insects. 16. Scales. Gurdon Evans. *DeRuyter, May* 24,1851.


ANDERSON SC.

DESIGN FOR CARRIAGE HOUSE AND STABLE.



GROUND FLOOR.

Ornamental Carriage House and Stable.

The accompanying plan of a stable, designed for a gentleman on the Hudson, was first published in the *Horticulturist*, and was thus described by Mr. Downing:

This stable, is intended to produce a picturesque effect externally, and to contain internally all the convenience demanded in a building of this class. The central portion contains the carriage-house, with space for four vehicles, and a harness-room at the end of it. On one side of this is the stable—the stalls 5½ feet wide, with rack supplied with hay through wells, over each rack, in the floor of the hay-loft above. A flight of stairs leads from the end of the stable to the hay-loft above, and is placed here in order to prevent any dust from the hay-loft from finding its way into the carriage-house. On the side of the carriage-house are a tool-house and work-shop. All the doors in this stable slide upon iron rollers running upon a piece of plain bar iron above the door. These iron rollers are attached firmly to the door by iron straps, and the door, being thus suspended, not only runs much more easily and freely than if the track were at the bottom, as is usually the case, but the track is not liable to get clogged by dust or other matters falling upon the floor. Besides this, a sliding door in a stable, when opened, gives the largest possible egress in a given space, and can never stand in the way to the injury of horses or carriages passing in or out on either side.

The high-roof of this building gives a good deal of room in the hay loft, and the ventilation on the top keeps this space cool and airy at all seasons. The whole is built of wood, the vertical boarding battened in the ordinary manner.

◆

Pork Making with Corn.—The unprofitableness of feeding to hogs uncooked corn, is shown by an experiment given in the Genesee Farmer, performed by J. E. Dodge of Wisconsin. Two pigs, a cross between the Byfield and Berkshire, were selected, both alike in every respect, except that one weighed 260 lbs. the other 247 lbs. The heaviest was fed with corn meal mixed with cold water, consumed 425 lbs. and gained 63 lbs. live weight. The other ate 308 lbs. of shelled corn, (with plenty of good water,) and gained only 33 lbs. in live weight. Thus it appears that 8 lb. 5 oz. of meal, and 11½ lbs. of corn, were required for each pound of dressed pork. Had the meal been cooked with about three times its bulk of water, it would not have required half the amount used when uncooked.

The Great London Exhibition.

We make the following extracts from letters received by us from Mr. JOHNSON, the Agent from the State of New-York, to this exhibition. They will be read with interest. EDS.

LONDON, May 6, 1851.

DEAR SIR—Ere this reaches you, you will have seen the account of the opening of the Crystal Palace, which will answer as well as any description I can give. No pen, however, can do justice to the whole display. It has never, in all its parts, been before excelled, and probably never will be. The day was exceedingly fine, and the out-door display magnificent. Within, everything in complete order when Her Majesty arrived, and the representatives of every nation and government, I believe, except Naples, were present, to mingle together their shouts of applause at the opening of an Exhibition of the Industry of all.

The show is visited daily by multitudes. I have not yet had time to look over all that has been arranged; but have seen enough to be satisfied that it exceeds all the expectations I had formed, although they were, as I thought, very highly raised. England has done what we expected—presented her best things in absolute profusion. Agricultural implements and machinery, her engines and machinery for her factories, exceed in finish any thing I ever before saw. Whole establishments have been almost, if not quite, literally brought here.

In the hasty examination of the implements, I do not discover any new ones that we have not heard of—except an iron horse-rake, much like the spring-tooth rake of our country, which is a far more available implement than any heretofore in use—and some new plows of lighter make, and I think an improvement upon those heretofore made. I shall, as soon as practicable, begin with the different exhibitors, and go through their articles, —carefully noting each, and, as far as in my power, ascertaining its qualities, price, &c. &c.

In the manufacturing department—(woolen, cotton, linen, and silk,)—there is a wonderful display—not only in the English, but in the Foreign departments. France has showed herself alive to this great Exhibition, and if John Bull beats her, he must have the credit of doing what no other nation can approximate to. The French exhibition is not nearly arranged; but every day opens some new and wonderful display of fine goods, statuary, &c., which attracts multitudes, who stand and gaze and are lost in admiration at the ingenuity and skill of these Frenchmen. Austria, Prussia, Switzerland, Belgium, &c., have many very fine things. The United States, I am sorry to say, have not fulfilled our expectations, nor justified John Bull's fears, in the exhibition they have made. Not half the space alloted us has been occupied; and France and England are filling up the vacancies. We have, I think it is admitted generally, the finest piece of sculpture—"The Greek Slave," by POWERS. A dying Indian, made from American marble, by a young artist, his first effort—(P. STEPHENSON, Boston,) No. 467 on the Catalogue—is a masterly work, much admired, and the London Times, which says all the unkind things necessary of the United States show, admits it has merit. The best foreign artists here say it has *great* merit; and, so far as I have heard, they admit that the Greek Slave is the best statue exhibited.

Mr. RIDDLE, the U. S. Commissioner, has selected HORACE GREELEY, Esq., as Chairman of the American Judges. I will give the names of all the Judges as soon as they are announced by the British Commissioners.

I saw Col. REID, Chairman of the British Commissioners, to-day, who informed me that *any articles* from our country would be received at any time, and that he was very desirous our country should be better represented: as having travelled there, he knew that the Exhibition did not fairly represent us, or our progress in agriculture, manufactures, &c. I wish the collection of wheat in the straw in the Agricultural Society's Rooms could be sent here in good condition; and also samples of our hay and manure forks, shovels, spades, &c., of which there are a few, but very indifferent indeed. A show, too, of our manufactured goods should be made. The shawls from West Troy, broadcloths, &c., ought to be here.

I was at Windsor Castle yesterday, with a party of Americans, and was much gratified with the examination of the State apartments, splendid paintings, &c. We went through the Park, called at the Royal Garden at Frogmore, and saw Mr. INGRAHAM, the head gardener, to whom I had a letter of introduction. We received every attention; but had not time fully to make thorough examinations. Here are grapes in great profusion, ripe strawberries also, and everything in perfection, and worthy of the most critical examination. I shall visit there again soon, and am promised admission, through Gen. WEMYS, to visit and examine the stock of his Royal Highness Prince Albert, and the poultry establishment of Her Majesty, one of the most perfect, probably, in the world.

London, May 16, 1851.

On Wednesday I attended the weekly meeting of the Royal Agricultural Society, and heard two very interesting lectures from Prof. Way and Prof. Simonds, on the use of salt as a manure and for animals. Professor Way took the first part, and gave a brief history of the facts recorded as to salt, and of its chemical qualities, and the manner of its action, which he said was an indirect one, not direct. Prof. Simonds took the latter part of the subject, which he very clearly illustrated, showing the advantages of salt for the use of animals, and concluding as a general rule, it would be well to give free access to it, rather than give it at intervals. As a lecturer, Prof. S. is much the most interesting—as he is a ready speaker, and explains with great clearness his subject. Prof. Way is rather hesitating in his manner, but clear in the illustration of his subject, and very careful in stating his propositions and conclusions. The lectures were followed by a discussion, in which Col. Challoner, Mr. Fisher Hobbs, Mr. Mechi, Mr. Huxtable and others, took part —resulting, as do similar discussions in our own country, in a great variety of opinions in regard to the use of salt, directly contradictory to each other. The meeting was a very interesting one, lasting about two hours. Earl Ducie and several other distinguished landlords were present.

The judges on the part of the United States were appointed on Monday, and several of the committees, or jurors as they are called, are at work daily. I am on the committee on agricultural implements; but the English judges had a trial of their implements, and one or two Belgian ones, *before* the exhibition opened—and I am informed have made up their awards. Mr. Pusey is chairman. I informed him that we should insist upon having our implements tried as soon as we had persons on the ground to attend to them. He has not called his committee together yet, but informed me that he was in favor of testing our implements; but I should fear that the decisions already made might be embarrassing.

The gentlemen selected as the English and foreign jurors, are generally very intelligent, and so far as I have been made acquainted with them, are disposed to do even justice to all. The English have a decided advantage, as their jurors have been selected from those best informed on the subjects submitted to them, while the other nations have to depend upon gentlemen present, who may not, in all cases, be best qualified for the examination of the subjects on which they are called to judge. It is expected that it will take the jurors from four to six weeks to complete their examinations, though I hope it may be finished sooner. Every facility, so far as I can discover, is most readily afforded by the British Commissioners, to have a fair hearing on every matter submitted to them.

I went to day with one of the jury on articles used for food, through all the grain divisions, and we came to the conclusion that the best samples of wheat and corn exhibited, were in the United States exhibition. None, except the wheat from Australia, was equal to some of our samples. The Australian wheat, the same kind precisely as that we have at the Rooms, and which Mr. Thompson of Long Island, raises, was very fine indeed.

The Canadian wheat was very good in some instances, though most of it was of mixed varieties, which detracts from its appearance. A sample grown in England, called the Prolific, I believe, is marked as weighing 67½ lbs. per bushel, and was very fine. The yield of Mr. Hotchkiss, of Lewiston, in our state, 63½ bushels per acre, exceeds in quantity any on exhibition, and the sample, as you know, is a very fair one. Mr. Bell of Westchester county, has some very choice specimens of grain. A sample of White Spring-wheat, excels any I have before seen, and his specimens of Winter-wheat, White-Flint, Soules and Mediterranean, are remarkably good. In barley and oats I think the Scotch and English excel us. Their grain is much heavier than ours, and the malsters say that our barley does not malt as well as theirs. How this is I do not know. Our samples of buckwheat are better than any other which I saw. I have not had an opportunity of examining very critically, the flour as yet; but I think some of ours is equal to any I ever saw, and such is the opinion of an intelligent Scotchman from Edinburgh, who has charge of a stand filled with the products of Scotland.

The Highland and Agricultural Society of Scotland have a very extensive show. I should judge that they had removed their entire Museum here. They have wax preparations of potatoes, turneps, peas, &c., that are very life-lide, and their exhibition of grain in the ear is very extensive, and is deserving, as it receives, much attention. Samples of forty day maize, ripened in England, are on exhibition, and appear very well. The ears not as long as ours, but the corn is perfectly ripened—the husks exhibited showing that it reached its full maturity. In grass seeds the exhibition is very extensive, and many of the samples are unusually excellent. Millet, rape, and other seeds, are on exhibition. From the East-Indies, Australia, &c., there are large contributions of their products, some of which are worthy of especial notice, which doubtless they will receive. I regret that we have not a more extended contribution in this department, as I am sure we could have added largely to our exhibition, and have satisfied all that we can raise of the first quality the best of grains used for the sustenance of man or beast.

Last Monday the Smithfield market had the finest lot of cattle ever exhibited, except at the Christmas show, and nearly equal to that. It was a sight that a lover of good beef and mutton would go a long way to see. The Scotch were ahead of all. The more I see of the Galloways and West-Highlanders, the better I am convinced that there are no cattle in this country that compares with them for beef. The Short-horns, Devons and Herefords, are remarkably fine; all the cattle are better fattened than I have ever before seen in this market, or in any other.

I saw a day or two since, at Sion House, and at Kew also, the "Victoria Regia," and it is a sight worth seeing, truly. The leaves of the plant at Sion House were, I should judge, nearly three feet in diameter, and would, I doubt not, as represented in the plates we have seen, support a child four or five years old. The water is kept in agitation by a small water-wheel on top of the water, supplied by a lead pipe, which conducts the water to the tank. The plant has to be *cheated*, they say, by this operation, believing it is in its native waters, which are constantly agitated.

Sion House, one of the Duke of Northumberland's seats, is near Brentford, famous for John Gilpin's race, and the old town looks as if John might run again, and with equal eclat. The house and grounds are thrown open to the public, and tickets are procured of the foreign ministers, or at book-stores, which allow free access. There are about 300 acres connected with the gardens and parks. The paintings in the house are from the old masters, comprising portraits of Charles the First and his family, Charles the Second, the early Dukes of Northumberland, &c. and are, many of them, of rare excellence. These paintings occupy the walls of three large rooms. The library is 120 feet long, facing the lawn and park, which extend to the Thames, and with a far reaching view beyond, over the country, studded with country-seats, &c. It is one of the finest views of the kind I have yet seen. The drawing room, dining room, and vestibule, are richly furnished, and everything that wealth can supply to a refined taste, seems here to find a place. The duke visits here at this season three days in the week; the rest of the time in town. He does not occupy it more than six weeks in the year, I am told—the rest of the time being spent in the town, or at his splendid estate in the interior of the kingdom.

The garden is filled with every variety of plant, flower, and shrub that can contribute to its beauty. His greenhouse of palms and tropical plants, is very rich in its collection and arrangement. He has a fine breed of cattle, and choice sheep, grazing on his pastures on the banks of the Thames. His stock mostly Short-horns, interspersed with Alderney or Jersey cows for milk. The sheep are South Downs and Leicesters.

Kew, a royal residence, is also thrown open to the public so far as the grounds and mansion are concerned. The Palm-house here is of glass, somewhat in the style of the Crystal Palace. Here almost every variety of these trees are to be found. The bread tree bearing its fruit—the India-rubber tree, &c., are here to be seen. This house is warmed, I understand, by twelve furnaces, and the tall chimney which conducts the smoke away, stands, I should think, from 40 to 60 rods distant. These grounds are handsomely laid out, and the green-houses are well filled. The "Victoria Regia" is not as large as at Sion House, but still ontvies all our ideas of the Water lilies. Beds of Rhododendrons are scattered through the Kew grounds, which, when in bloom, must produce a splendid effect. The museum of curiosities here, established by Sir W. J. Hooker, who was present when we visited it, is a very interesting collection. We went to Richmond Hill, and I saw from the coffee-room of the Star and Garter, the splendid view which so captivates the English, and I doubt not everybody else who sees it. The day was fine, and the country seldom seen to better advantage than when we were there.

◆

Pulling out Stumps.

Eds. Cultivator—You know many men when they do any thing which they think is important, like to let it be known; therefore I will tell you of a large stump operation I have lately gone through with. I hired Mr. James Haire, from Yates, county with his stump machine, three hands and one yoke of oxen, at six dollars and eighty-eight cents per day, and have had about 800 oak and black walnut stumps pulled. They were mostly very large—some of them brought up the earth from 15 to 17 feet square, on the surface, and from five to six feet deep in the center, and three to four feet deep at the outsides. They were drawn by a screw. The screw went up through a frame, and the nut on the top was in a horizontal wheel of wood, which was turned by horses or oxen, drawing up a slack rope of three hundred feet; thus raising the screw, which was attached to the stump by a large chain and clevis to the screw, and that raised all we tried but two. It certainly has the greatest power of anything I ever saw; if the chain is strong enough, two yoke of oxen, or two pair of strong and true horses, I think will raise any stump. My stumps had been cut from 10 to 14 years, yet some of them came very hard and brought an immense quantity of earth. Where the small *roots were* decayed, even if the tap root drew up five to six feet and over, from below the surface, they brought up little earth, and the work was done in a short time, but those which brought much earth, took a great deal of labor to get the clay cleared off them, while the stump was suspended, to get the earth back into the hole. Besides, no number of teams could have turned them over, if let down with such a mass of earth. After they were cleaned I find it takes six strong horses to draw some of the largest on a stone-boat. Now for the cost, as many of your readers may want to know. I paid Mr. Haire $114.50; my own team and one man, were worth about $25—making $139.50, besides board and keep of Mr. Haire's team. But the cost would have been much more, had we not got out some 200 or more by the oxen and horses without the aid of the machine.

If any farmer wishes to undertake such a job, I can safely recommend Mr. Haire as a sober, industrious go-a-head man, and one who, I believe, understands the business thoroughly. John Johnston. *Near Geneva, May* 23, 1851.

◆

Farm Fences.

Eds. Cultivator.—The subject of farm fences is one which every farmer should be interested in. Every farmer knows well that a good fence is what he likes to see around his fields, and those of his neighbors. There are but few of us that have not suffered in years past by poor fences and breachy cattle—*of course.* As to the kind of fence to be buit, all depends upon circumstances and location. Any kind of fence looks well, when well built and in good repair. Probably the most substantial and lasting of all farm fences, are built of stone. On most farms in New-England, more or less stone fence can be made.

But the manner in which these fences are often built, is another consideration. We often see single walls laid up with only one tier of stone, and where they have been built for years they often have a zigzag or worm fence appearance, and how they stand at all, is a question. Often, where such fences are made, not one half of the stone are taken from the field, which is bad economy, to say nothing of the fence. Farmers should remember that when a field is cleared thoroughly of surplus stones, and the stones laid up into good substantial walls, they have gained two important points. First, they have cleared the land for good cultivation, and second, they have a good fence, which, if well laid up, will last a lifetime. Walls four and five feet wide at the bottom, and as many feet high, with cap stones on top, projecting over three or four inches on each side, will turn sheep pretty effectually.

In many parts of Connecticut, old rail fences may be seen three or four feet high, while the stones are so thick that you may travel on them from one field to another. I consider it the most miserable and shiftless economy in the way of fences and cultivation that the Connecticut farmer has yet accomplished. The most durable rail-fence, to my mind, is the old "Virginia worm fence." When this fence is well laid up, six or seven rails high, with long poles or riders staked on top, hardly any wind will level it to the ground. You cannot work up to this fence quite so close, as to a straight fence. But for pasturing or mowing, it takes up but little or no more ground than the post fence. The posts of the straight fence which I built ten and eleven years ago, are now rotting off, and the fence is falling down. Some farmers say that fence posts will last double the time by setting the posts top-end down, but having never tried it, or never seen it tried, I cannot say as to the fact.

Post and board fence is built by many farmers, and it makes a much neater fence than rails, and is often quite as cheap, and much lighter in construction. Wire fence is now talked of, and some fence of this kind has been built, and if it be lasting, and the weather does not affect the wire, I think it will come into general use, especially on the western prairies, where timber is scarce. I have been told that a cheap composition of coal-tar laid over the wires, will prevent rust or any action of weather on the wire. Where posts can be made of stone or iron, and the expense will admit of it, this fence must be lasting. A prairie farm fenced with wire, would make a grand appearance, as at a short distance nothing would be visible but the posts. But some time must elapse before this fence can be thoroughly tried as to durability. L. Durand. *Derby, Ct., March* 12, 1851.

Sheltering Manure.

Eds. Cultivator—Within a year or two past I have met with several articles in your paper, recommending the practice of keeping manure under cover, in order that it may be protected from the action of the sun, wind and rain.

Considering the reasoning on the subject good, I concluded to adopt the practice, which I accordingly did, during the past winter, but on hauling out my manure this spring, I found it not a little "fire fanged," and I observe that several of my brother farmers have made use of your paper of late as a vehicle for the same complaint. Now this won't do. We can't afford to have the "gold dust" of our farms thus diminished in bulk, and deprived of half its efficacy.

I am still of the opinion that it is desirable that dung should be kept under cover, but unless some plan can be devised to prevent it from heating when thus housed, we must return to the "old way" of our forefathers, and suffer it to lie scattered about the barn-yard, for I do not believe that sun-beams, rain-drops, and north-westers, will do so much harm to it as the violent heat engendered by this close confinement.

Who will help us out of our trouble? Were I a chemist, I might discover a remedy, but as I am not, I would request some of the scientific contributors to your columns, to come to our aid in this dilemma. Would a plentiful and frequent admixture of gypsum, which is recommended to prevent the escape of ammonia, avail anything as a preventive against the evil of which I have been speaking? W. C. A., *Tioga, N. Y.*

The fertilizing principle of common yard or stable manure, may be wasted in various ways,—as by the soak or washing of rains, by being frozen and thawed during exposure to the air, by being alternately wet and dried, by *violent* fermentation, &c. Now the great object, of course, with this article, is to keep it in the most perfect state, or in a situation where it will be subject to least loss. The best situation is probably a cellar. Here the liquid and solid parts go together, and thus, with the moisture of the mass, and the low temperature in which it is kept, there is not much liability of a wasting heat taking place, except with the drier kinds of manure, as the excrements of the horse and sheep. But the temperature of the manure-heap under any circumstances, should be watched, and if it rises so high as to *consume* the substance, or give rise to ammoniacal fumes, it should be checked by an addition of more water. It is very easy to add this, especially in a cellar, by means of spouts from a pump or aqueduct. For an answer to the query in regard to mixing plaster with manure, see another article in this number. Eds.

Erection of Fences.

Eds. Cultivator—In the January number of The Cultivator, there is a communication in reference to the posts of wire fences heaving out by the frost. I have some wet land through which I made a board fence the last season; it is as firm as the day it was put up. Near the bottom of the posts, bore a two inch auger hole, thro' which put a pin two feet long at right angles to the way the fence runs. You can fill the post-hole up to the pin with earth if you wish; fill up the rest with stones. Around some of the posts, I put some six inches of earth at the top of the ground, as an experiment. They stand well enough, except the earth filters down through the stones. I have had fence made as above to prevent its being taken away by the floods, when I lived on Muncy Creek. Frequently the water was over some of it from three to ten feet. It has stood in this way for many years, and will stand till it rots off.

If there is much of a current, put a large stone at the bottom of the post, on the upper side, and one at the top on the lower side of the post; this will generally keep the fence right; but where there is back water that you have to contend against, the anchoring of itself will answer. When we adopted this plan, there was an end to resetting and fishing up fences, after a freshet in the river and creek. I think it will answer in spouty land, but cannot tell, having only one year's experience. So far, it works as well as I expected. It *will not* do to put earth directly on top of the pin, if you do it will rise till you come to the stones. B. M. E. *Mansfield Farm, Wolf township, Lycoming county, Pa.*

Time for Cutting Timber.

Eds. Cultivator—It is a matter of great consequence to the agricultural interest, to ascertain the best season to cut timber to insure its durability. On this subject, there has been a diversity of opinion, and after 40 years experience I have changed my own opinion. I early thought the best time to fell timber was the winter, before the sap began to move in the spring. I adopted this opinion, because, at this season, the process of vegetation in most matured, and the softer parts of the wood most hardened. There was one fact that confirmed me still more. I often observed that twigs and small limbs, cut in winter, were more durable than those cut in summer. Those cut in winter soon dry up and harden by the warm weather of the spring, and will endure two or three years without material decay. But twigs cut in the heat of summer, when the tree is full of sap, and the leaf of fresh and vigorous growth, do not readily part with their sap. The fervent heat of summer causes an immediate commencement of the work of decay—the bard turns black, is soon covered with a small fungus; and by autumn, the decay is so far complete that the twigs become very brittle, and break by the smallest force.

Seeing these facts, I was led to conclude, that the winter was the most favorable season for cutting timber.

But the two cases are not parallel, and I overlooked some facts that ought to be taken into the account. The reasoning applied to the cutting of the twigs, will not apply to the cutting of the trunks. The trunks cut in winter and early spring, do not dry so readily as the twigs on the approach of hot weather, especially if left unsplit; but on the contrary the sap begins to flow, and very often new shoots put forth on the approach of summer, showing that the trunk is very much in the same state as it would have been if left standing. In this state the extreme heat of summer causes the commencement of speedy decay. This same timber if it had been suffered to stand, till the vigor of the summers heat began to abate, say till the last of August or first of September, would have had the advantage of a partial maturity. This maturity would still progress for a while after the tree was felled, and become perfected by the usual time of the falling of the leaf. If the timber were split or hewed at the time it was felled, it would be parting with its sap and drying up during the autumn, so that there would be but little tendency to decay in the first season; and before the approach of the next summer it would become so dry and well seasoned, as not to be subject to decay from its own sap and internal moisture.

The decay of timber is owing to the combined influence of heat and moisture, and the rapidity of the decay is in proportion to the degree of heat. A wet stick in winter and one kept perfectly dry in summer suffer no material decay.

I was however led to a change of opinion, as to the best time of felling timber, not by the foregoing train of reasoning, but by observing that there was a material difference in the durability of my fences, made of the same material, when cut at different seasons of the year.

I have had land cleared at almost every season of the year, and fenced by materials on the land; and sometimes not of the most durable kinds of timber. After some years of observation, I found contrary to my expectations, that those fences that were cut in winter and spring, began to fail some years sooner than those that were cut in the latter part of summer. The difference was most visible in the most perishable kinds of timber, such as elm, poplar, and basswood. I then made a diligent search for the cause of this difference, and came to the conclusion before stated. If my reasoning is incorrect, I would be much obliged to any gentleman that will give a more satisfactory solution. It is desirable to know, not only facts, but the principles on which they are founded. E. D. A.

◆

Remarkable Swine.

The *Maine Farmer* gives the weight of two uncommonly heavy hogs. One of them was fattened by J. W. Sawtelle, of Norridgewock, Me., and was killed on the 24th April last. His age is said to have been just two years, and his dressed weight *nine hundred and thirty pounds*, exclusive of rough lard, which weighed forty pounds. The other was fattened by John Smiley, of Augusta, Me., and was killed on the 12th of April,—“being just ten months old to a day,” and its dressed weight was *five hundred and six pounds.* Mr. Smiley gives some facts in regard to the mode of fattening this pig, which are deserving attention, and we take the following from the account in the paper referred to:

The amount of food consumed in fourteen weeks, was seventeen bushels and twelve quarts of corn; and the gain in weight was two hundred and ninety-one pounds, being a small fraction less than three pounds per day on an average. Sometime between February 1st and February 15th, Mr. Smiley fed six quarts of molasses to his pig with his food. This destroyed his appetite, and for eight days following he ate but very little—perhaps not more than a pint a day—and in consequence, the gain for two weeks was only twelve pounds. From the 4th of December to the 1st of February, his food was exclusively boiled corn. After that, his food was principally in the form of meal. For the last two months he ate about two quarts of charcoal daily. Mr. Smiley has been careful in weighing the pig and measuring his food, and he holds himself ready to prove his statements by credible witnesses. He is of opinion that this pig, in four months, gained on an average, one hundred pounds of “round hog” per month. The following is Mr. Smiley's statement of the live weight, gain, and amount of food consumed by his pig:

	Live weight.	Gain.	Amount of food.
Jan. 4,	278 pounds.		
Jan. 18,	330 “	52 pounds.	73 q'ts corn.
Feb. 1,	382 “	52 “	71 “
Feb. 15,	469 “	87 “	119 “
March 1,	481 “	12 “	36 “
March 29,	557 “	76 “	196 “
April 12,	569 “	12 “	61 “

The pig was not fed for about thirty-six hours before he was slaughtered. The difference between the live and dead weight is exhibited below:

Dressed pig,	506 pounds
Rough fat, heart and midriff,	23 “
Blood,	13 “
Hair and intestines,	27 “
Live weight,	569 “

The clear pork weighed 262 pounds; the hams and shoulders 101; and the feet and upper part of the head, 21 pounds.

◆

Ayrshire Cattle in Berkshire County, Mass.

The report of the North Stockbridge Farmers' Club, published in the Pittsfield *Culturist*, speaks of the introduction of the Ayrshires into that section as follows:

The Ayrshires have done well here. They are all that the most sanguine breeders could reasonably expect or hope for. Several years ago, we had among us an Ayrshire bull, imported by the State Agricultural Society. His *stock* has proved good, and as milkers, much better than the natives. Five years ago, S. G. Ward, Esq., then of North Stockbridge, now resident in Boston, imported an Ayrshire bull and heifer, carefully selected from the finest and choicest of that family. To the intelligence, disinterestedness, liberality and enterprise of Mr. Ward, the farmers of North Stockbridge and Lenox are under obligations, which, though adequately appreciated, can never be fully discharged. We regret, most heartily, that he was constrained to withdraw from an occupation in which his head, his heart and his hands were actively employed with so much usefulness to the farmers in his neighborhood. Of the superiority of Mr. Ward's stock, there is no doubt. At our show of cattle at the Greenwood Farm in Lenox, where the best old and young were brought together and compared, the appearance of those derived from this stock evinced their decided superiority. Some allowance must always be made for the greater pains taken with a breed from which it is proposed to propagate, yet, there are points and marks of excellence, which good keeping cannot produce, nor bad keeping efface in a single generation—points which are apparent and manifest—good qalities which are lost rather by degeneration than temporary omission of due care,—which are of and in the breed, and disappear only with its change. The valuable qualities and characteristic points of the Ayrshire were prominent in the descendants from Mr. Ward's importation. The great object of your Committee was to ascertain as well as could be done, the merits of the several breeds.

Mr. Daniel Barnes, who has on his farm fine blood Ayrshires from Mr. Ward's stock, exhibited four two years-olds, of the half-blood, of great excellence. If they were fair average specimens of the cross, we feel entirely safe in recommending it to the special attention of breeders of fine cattle. Mr. Richard H. Walker, exhibited eight yearlings, all with more or less of Ayrshire blood, which attracted by their good points, the attention of your committee, and every one upon the grounds.

The conclusion to which your committee were brought, by their inspection of the stock upon the ground, is, that as milkers and feeders the Ayrshires are worthy the attention of graziers and dairymen, and are suited to our soil and climate.

The Great Exhibition---English Agriculture.

Since the receipt of Mr. Johnson's letters of the 6th and 16th of May, (which are given on other pages of this number,) we have received the following, which we are happy to lay before our readers:

London, May 27, 1851.

Editors Cultivator—Since my last, the exhibition has been full of interest, and the people come up in great numbers; and its success, in a money point of view, seems no longer doubtful,—though the result of yesterday's receipts, from the first day of shilling tickets, has not been as encouraging as was expected. To pay the expenses of the Exhibition and purchase the building, would require £300,000. Of this sum £65,000 was raised by subscription,—£65,486 have been received for season tickets, and up to Saturday night last, upwards of £40,000 received at the door for single tickets—making upwards of £170,000 realized in three weeks. Should the receipts average hereafter £1,500 per day, it will pay the £300,000, and leave a surplus for other purposes.

The goods are not fully arranged—some of the departments not yet completed. The Russian goods arrived last week, and are being arranged; and several other departments are completing their arrangements. Some few additional articles are arriving from the United States, and our exhibition is attracting more interest. The grain reapers, plows, &c., and the machinery, are being examined with interest. The grain reaper of McCormick attracts much attention, and one person could be constantly employed in answering inquiries in regard to it. An English farmer and member of Parlirment, said to me a few days since, on my explaining the reaper to him, that if it succeeded here as it had done in America, the cost of the whole exhibition would be amply repaid by the introduction of such an implement into Great Britain.

I took a ride, a few days since, to a farm in Surry, about 18 miles from town, owned by Mr. Combe, a large brewer of the town, and a partner in the firm of Combe, Delafield & Co. Mr. Delafield is a relative of the respected President of our Society. He has a fine herd of Short-horns and is to have a sale of about 40 head on the 10th of June, by Mr. H. Strafford. Mr. C. has a farm of 800 acres, most of it freehold. It is clay soil mostly and very moist, and has required much expense in drainage—at the rate of about £7 per acre. It is now, however, in good condition, and supports a large stock of cattle and sheep. When Mr. Combe first introduced Short-horns upon his farm, it was said he could not succeed; but the result has proved that Short-horns do well. He has 92 head of cattle. His overseer, Mr. John Giles, is a capital man, and the stock are in fine condition, and many are very choice animals. He has strains of Mr. Bates', Lord Ducie's, Earl Spencer's and Mr. Booth's stocks, as well as other distinguished breeders. He is breeding for a medium sized animal, and has some animals that are not easily excelled. Some of his heifers are, in my judgment, equal to any I have seen brought over to America, and would do no discredit to any breeder, and I think will probably be sold at fair prices.

He has 1050 sheep fattening on pasture and turneps. They are Hampshire Downs, crossed with South Downs, and Cotswolds crossed with South Downs. He gets about 10 shillings ($2.50) per head advance on his sheep, besides the fleece averages 6s., which pays very well. The farm is more profitable for grass than grain, though a considerable breadth is kept in grain yearly.

The farm buildings are admirably arranged, with all that neatness and completeness of arrangement, which is so important in a large farm. The stables and yards for the cattle, sheep, and swine, seem almost perfect, and the dairy cows have a most comfortable and convenient building, where every facility is had to make work light. Water is supplied in the manger to every cow, the troughs or mangers being of iron,—the floor of brick, and an iron gutter in rear of the cows to carry off the urine. A finer show of cows I have never seen than 32 Short-horns in this stable, put up for milking. Mr. Combe has several cows that are very large milkers. I design to attend his sale of stock—as it is the first that is to come off in this part of the kingdom.

Mr. Combe keeps 20 horses for his farm work—four large sized dray horses for drawing manure from town, and taking down sheep, cattle, &c. to market; the others lighter animals, more like ours than we often see here, though I was informed by Mr. C.'s overseer that the lighter horses are found to be much the most profitable for farm work, and are coming into use to a considerable extent.

The neatness with which farms are managed here, strikes an American with surprise. Everything is attended to in time, on a good farm; the plowing well done; the ground in all respects well prepared; the seed drilled in, generally, (and I think this system is gaining,) and when the weeds appear, they are carefully eradicated, giving the grain the full benefit of the nutriment in the soil—which properly belongs to it. Garret's horse hoe performs among the drilled grain, the work formerly performed by old men, women, and children. It is a capital implement, and I have seen it at work here, and can testify to its admirable adaptation to the purposes for which it is used. It might be somewhat simplified, but as it is, I conceive it a very valuable implement for the farmer.

The hauling work on the farm here, is performed with carts mainly, instead of wagons, as with us. The old fashioned carts with broad wheels, the felloes six to eight inches wide, and with heavy awkward thills and boxes, are a very cumbersome vehicle, but the wagons being no better, the former have long been used in preference. The style of carts which are now being constructed is much better. They are much lighter, better arranged, cost less, and with them much more work can be done. They are generally of what is called, I believe, the Scotch pattern, many of the best having come from Scotland. There are some very excellent ones on exhibition at the Palace, and but few if any of the real old ones are to be found except on the farms in the country. They are certainly here preferable to wagons. Whether in our country they would be equally advantageous, at present, may perhaps be questioned, though I have little doubt, that if more frequently used the labors of our farmers would be much lightened as well as the expense diminished.

Mr. C. estimates his farm at £60 per acre. He has no tithes, and the taxes of all descriptions amount to about $2.50 per acre. They manure very high here—and prepared manure, guano, lime, bone-dust, phosphate of lime, &c., are very extensively used, and with great profit. Much complaint exists as to hard times among the farming class, but they appear to be doing as much as at any period to keep up their farms, and the style of farming operations is certainly improved from what it was when I was here in '46.

◆

The "Banner Wheat" a Misnomer.

We have of late years seen frequent accounts of the success which has attended the cultivation in Maine, of a variety of winter wheat called there, the "Banner Wheat." Dr. Holmes, in a late number of the *Maine Farmer*, shows that this wheat is the "Kloss's White Blue-Stem," which originated in Pennsylvania. It appears that the first account of this wheat was given to Mr. Ellsworth, then Commissioner of Patents, by Hon. John Snyder, who in 1843, sent Mr. Ellsworth a bushel of the wheat for distribution. He says—"The bushel of wheat I have sent you is the product of my county—Union—Pennsylvania. Its origin is briefly this: My neighbor, Christian Kloss, saw in his field of blue stem wheat, a single top-proud head; he was struck with the contrast between it and the wheat of the whole field, this being the only white head in it, and much the largest. At harvest time he secured the head and seeded it in his garden the coming fall; I do not recollect the time, perhaps six years since—(1837.) He divided the next years' produce among his neighbors, and last fall there were one thousand bushels of this seed sown; one farmer had four hundred bushels. It is called *Kloss's White Blue-Stem.*"

◆

Striking illustration.—At the Agricultural Convention held in Boston in March last, the presiding officer, Hon. M. P. Wilder, in the course of an able speech showing the advantage of improving agriculture, gave the following example: "We have 150,000 cows in this Commonwealth. Suppose science enable these, or improved breeds, to yield *one* additional quart of milk per day; this, at three cents per quart, would increase the productive capital of the State $4,500 per day, or $1,642,500 per year; or if two quarts per day, a gain of more than *three million dollars* annually."

ANSWERS TO INQUIRIES.

Tan Bark.—S. B., Edgefield, S. C. Tan bark contains matter which is valuable as a manure, but while it is fresh, it also contains so much acid that it is injurious to vegetation. It must be thoroughly decomposed before it can be used on any crop to advantage. The best way to prepare it is to mix it in a heap with strong wood ashes, or a solution of potash. The alkali will destroy the acid and cause the mass to heat, which will bring the food of plants into a soluble state.

Cows calving in the day time.—D. B. K., Plainfield, N. J. The custom to which you allude, as prevailing in Holland, in regard to leaving off milking pregnant cows on a particular day, in order to insure their calving in the day time,—has sometimes been adopted in this country. We have known some instances of cows being tried by it, but the result did not support the theory. We cannot see why the particular day or hour on which a cow is milked for the last time, should cause her to calve in the day time, any more than in the night.

Binding the volumes of the Cultivator.—"An Old Subscriber," Hartford. We can have the volumes of The Cultivator bound at twenty-five cents per volume; but in many instances it is inconvenient for subscribers to send them without incurring the expense of express charges, which are not less than twenty-five cents, each way, for any package.

Mowing Machines.—"A Subscriber," Champlain, N. Y. Ketchum's mowing machine is said to work well in grass that stands up fairly and is not thick at bottom. Fine, matted grasses are said to choke the machine. We have seen it used in a light growth of clover, where it worked tolerably well. We do not know the price of the machine. Address S. Ketchum, Buffalo. E. J. Burral, of Geneva, N. Y., has a machine of this kind, but we have not seen it operate, and do not know the price.

Berkshire Pigs.—S. G. S., Gravesend, L. I. We know of no stock of this breed for sale, except that advertised in our June number, by Mr. Simmons, of Yonkers. We noticed that Col. P. R. Paulding, of Tarrytown, exhibited a good Berkshire boar at the show of the Westchester county Ag. Society, last fall.

Foul in the Foot, or Hoof-ail.—S. C., Stillwater. This disease in cattle is not *identical* with foot-rot in sheep. At least some attempts made by a Swiss veterinarian, by inoculating sheep with the virus of hoof-ail, produced no effect. Hoof-ail will, however, generally yield to similar treatment as is best for foot-rot. When the animal is first attacked, the foot should be cleaned with soapsuds. Blue vitriol (sulphate of copper) either in powder or solution, (the latter preferable,) should then be applied to the affected part. If the disease is taken in season, one application will generally effect a cure. Other substances are sometimes used—as corrosive sublimate (chloride of mercury,) and butyr of antimony. The former of these is, however, a strong poison, and it is hardly safe to use it unless the animal is kept in the barn for several days.

Turneps.—W. C. The English turnep, of several varieties, may be sown as late as the first of August, with success. The white Norfolk is a productive kind, but will not keep as well as the ruta-baga.

NOTES FOR THE MONTH.

Postage of The Cultivator under the New Law.—To any post-office

Within 50 miles of Albany,	5 cents *a year.*
Between 50 and 300 miles from Albany,	10 cents a year.
Between 300 and 1,000 miles,	15 cents a year.
Between 1,000 and 2,000 miles,	20 cents a year.
Between 2,000 and 4,000 miles,	25 cents a year.

The above are the rates as fixed by the new law, which goes into operation on the first of July, 1851.

Acknowledgments.—Communications have been received, during the past month, from D. B. K., S. W. Johnson, John Johnston, A Subscriber, Wm. Weeden, An old Subscriber, G. Evans, Prof. Norton, G. W. Edmundson, Alex. Rives, F. Holbrook, A Constant Reader.

Books, Pamphlets, &c. have been received as follows: Report of the Commissioner of the Patent Office for 1849, Part II, Agriculture, from Hon. T. Ewbank, Commissioner.——Official Catalogue of the Great Exhibition of the works of Industry of all Nations, from B. P. Johnson, Esq.——Dixon and Kerr's Ornamental and Domestic Poultry, from E. H. Butler & Co., publishers, Philadelphia.——Proceedings of the Clinton Co. Ag. Society at its annual meeting, with its Premium List for 1851, from J. Battey and W. Keese.——The Old Red Sandstone, or New Walks in an Old Field, by Hugh Miller, author of Foot-prints of the Creator, &c., from Gray & Sprague, booksellers, Albany.——Proceedings of the Am. Pomological Congress at Cincinnati, from Prof. Mather, Sec. Ohio Board of Agriculture.——Farmer's Guide, Part 17, from L. Scott & Co., publishers, New-York.——Annual Report of the Regents of the University, from Dr. T. R. Beck, Sec.

Phosphate of Lime.—Prof. Emmons has had a quantity of this article, from the quarry at Crown Point, prepared for use. The rock was first pulverized with sulphuric acid, and then dried off by mixing with wood ashes. It is thus brought into a state convenient for application. Prof. E. is desirous that extensive trials should be made with this article during the present season, and has left several barrels with Messrs. Emery for distribution. We hope the opportunity will be improved, to give this manure, which has proved of such great value in Europe, a fair test here. We will here correct an error made in a previous notice, in regard to the quantity of phosphate contained in the specimens from Crown Point. Prof. E., as well as well Prof. Norton, assures us that it contains from *eighty* to *ninety* per cent.

Writings of the late Timothy Pickering.—Hon. John W. Proctor, whose very interesting sketch of Col. Pickering, was given in our March and April numbers, writes—" I have received a letter from a gentleman in Philadelphia, familiar with the records of the Philadelphia Society for Promoting Agriculture, established 1785, of which Mr. Pickering was Secretary and Samuel Powell was President. He says that on looking over the books kept by him, he was astonished to find that he had not only made full and complete minutes of all the doings of the society, but had prepared a large *folio volume* of documents entirely in his hand writing, arranged with great precision, which have not been published. This is a fact, as is remarked, 'among the labors of this interesting man, in his capacity of farmer, that should not be omitted,' and I am pleased to annex it to others that I have communicated."

Fat Cattle from Kentucky.—Since the completion of the railroad from Cincinnati to Cleveland, many of the droves of fat cattle designed for the New-York and Boston markets, have been taken this route to market. Formerly they had to be driven across the Alleghany Mountains—sometimes making a journey of more than a thousand miles, and, though traveling at the rate of only ten to fifteen miles a day, at a great loss of weight, especially in the animals which were fattest at the start. We have noticed several droves of excellent cattle from the interior of Kentucky, which were transported over the railroad from Cincinnati to Cleveland, thence by steamboat to Buffalo, and thence to the Hudson river by railroad. Here they either take boat for New-York, or cars for Boston. They arrive here in fine condition, and must make a great saving in weight over the old mode of reaching market.

English vs. American Implements.—The London *Economist* has an article on the "Rural Machinery" on exhibition at the "Crystal Palace," in which the position is set up, that "no other nation has reached anything near our [English] state of advancement" in this department. The writer goes on—" This will be obvious on inspecting the Belgian and French agricultural implements, which consist only of plows and other tools for turning up or pulverising the soil, and are far less effective than ours. And it is even more obvious on looking at the American implements, which, with few exceptions, consist also of tools for performing the first operations of husbandry. Their plows are implements of very little power, and are quite incapable, we apprehend, of turning up a deep furrow. Indeed, the upright stilts, and short beam and mould-board, give the American plows exhibited much the appearance of a horse-hoe, or small potato plow, occasionally used by market gardeners; they afford, more than any other description can do, a conception of the primitive condition of husbandry in the New World."

The above is in several respects unfair. In the first place it takes the very unreasonable ground, that the London Exhibition represents the actual condition of agricultural implements in the different countries. England, of course, makes her utmost display; she has every facility and inducement for doing so; other nations, and especially the United States, have made no attempt at a general competition with her in this department. The great distance and various impediments, have prevented our manufacturers from sending many articles. Thus of plows, there are only specimens from *three* American manufacturers. Many of our best implements are entirely unrepresented. The assertion that our plows "are implements of very little power," is evidently made by a person who knows nothing about it. There is no evidence that he had seen the plows tried, and they had not, in fact, been tested in England when the article was written. Hence any judgment of this kind must be premature.

We have no disposition to claim more for American implements, or concede less for British ones, than positive merit would justify; but the conclusion, drawn from this exhibition, that those of England are far superior to those of any other nation, we believe to be unwarranted. As to plows, we are not altogether strangers to some of the best of English and Scotch manufacture. We are free to admit, that until lately, they have possessed an advantage, in one respect, over our American plows—that is, they have been better adapted to *stiff* soils. In such soils, the former will cut a deeper furrow, in proportion to the width, than most of our own. The fault with the latter is not that they will not turn a *deep* furrow—many of them will go seven or eight inches deep—they cut too wide, and leave the slice too heavy. But there is a great difference in our plows in this respect, and we do not admit that the superiority alluded to is entire and universal. Except in the particular mentioned, we are not aware that the English and Scotch plows can in general claim any advantage over the American.

Toads in Gardens.—Various remedies have been given for the prevention of the ravages of insects in gardens. Worms, or the larvæ of certain moths and beetles, often make great destruction among many kinds of plants. Various kinds of bugs attack melons, cucumbers, squashes, &c., and often destroy the crop soon after it appears above ground. Some kinds of worms seldom or never appear above the surface of the ground—attacking plants at their roots, or at such parts as are covered by earth. Others eat the leaves, and sometimes the stems of young plants. The latter are frequently called "cut worms," from the manner in which they cut off plants at the surface of the earth. In this way they totally destroy some kinds of plants,—as beans, melons, cabbages, &c., which, when once cut off in this manner, can make no further growth. One of the best means of preventing the ravages of these insects, is to hunt them early every morning, while they are near the plants they have eaten the previous night, and destroy them. Young chickens and ducks are sometimes kept in gardens, that they may devour the insects. This is but a partial remedy. Chickens will only eat a few species of insects—some of the most destructive they leave unnoticed—and they will always do more or less injury by eating various plants, and by scratching. Ducks feed more indiscriminately on insects, and do less damage to the plants. But *toads* will do much more good in proportion to the number, (if well grown,) than either chickens or ducks. They do no injury whatever; they feed altogether on insects, and devour almost every species that infests the garden. They have another advantage over chickens or ducks; they seek their food at times when insects are most abroad,—at dusk of evening, when fowls are at rest. Excepting the black "pumpkin-bug," toads will fill their stomachs with any bug, worm, or fly that belongs to the catalogue of enemies to the farmer or gardener.

☞ At the sale of the live-stock of Wm. S. King, Esq., near Providence, R. I., on the 7th of May last, the following prices were obtained for cows: *Brindle*, sold to M. P. Wilder of Massachusetts, $100; *Pink*, sold to John Lane, $105; *Jessica*, sold to S. J. Capen, of Massachusetts, $170, and several others $50 to $70 each. They were mostly of mixed blood—Short-horn, Devon, and Holstein, with the common stock.

Buckwheat.—This crop is one of considerable importance in many parts of New-York. It is usually sown in July—sometimes as late as August. A bushel of seed to the acre is the usual quantity. Sometimes it is sown on land from which a crop of hay has been taken the same season, and on a clover ley, if the soil is loamy and friable, it will frequently do well. This grain is also sometimes sown in connection with winter wheat, as a protection to the latter for winter. From personal experience, we cannot speak of it for this purpose. The consumption of buckwheat flour in our cities, during during the winter months, is very great, and it commands a price but little inferior to that from wheat. The coarse parts of the grain, after the flour has been separated, make good food for swine, milch cows, or other stock; and as a good yield—twenty-five to thirty bushels per acre—can frequently be obtained on land where wheat cannot usually be cultivated to profit, the crop has many advantages.

Manufacture of Mustard.—We have made some inquiries of Messrs. E. Murdock & Son, of this city, in regard to the manufacture of mustard. We have been not a little surprised at the extent to which this business is carried on by them, and by information they have given us in regard to the manufacture of the article in the country. Messrs. M. work up from 1,000 to 1,500 lbs. of mustard seed per week, equal at least to 30 tons a year, and they think the quantity manufactured in the state is at least 100 tons a year. They state that but a small portion of this seed—not more than a hundreth part, is raised in this country. The larger portion, and that of the best quality, is imported from Sicily and France. It is worth on the average seven cents per pound, or $3,50 per bushel. Messrs M. state that most of the American seed which they purchase, is as good as the best imported. They inform us, also, that the principal objection to the quality of the seed raised a few years since in Ohio, was that the crop was frequently cut when much of the seed was in an immature state, which occasioned much of it to shrink and sometimes to become mouldy. It should be cut at different times—the lower branches first, and other portions as they ripen. Messrs. M. are now getting some good seed from Illinois and Wisconsin. It averages in yield about fourteen bushels per acre, and gives a satisfactory return to those who pay proper attention to the cultivation and curing. Messrs. M. recommend the adoption of the Sicilian seed for sowing in this country, as being more productive and uniform in quality.

Emigration to the United States.—The *North British Agriculturist*, in reviewing Professor Johnston's "Notes on North America," says—"The extent to which emigration is now going on from Great Britain is, indeed, such as ought to excite serious alarm. In the year 1849, the numbers in the parliamentary returns were close upon 400,000. We have not seen the returns for 1850; but we believe that the increase during that year was at least 12 per cent., and this year it will be still more. We are quite prepared to hear that during the present year, 500,000 individuals will have left the British islands, which is equal to about two years increase of the population; so that, at this rate, every four years the population will have diminished by nearly one million. The Irish newspapers are already teeming with apprehensions as to the consequences of this wholesale system of expatriation." The writer concludes that Great Britain suffers greatly, not only from the loss of hands necessary for agricultural labor, but also from loss of capital—the latter being computed at £10,000,000 a year, taken out of the country by emigrants.

NUMBER OF SEEDS IN GIVEN WEIGHTS—Mr. MELVIN stated in a late discussion at an English Farmers' Club, that after several trials he had found that—

1 lb. of red clover of good quality gives, per acre, to each superficial foot,	6¼	seeds.
1 lb. yellow clover, (*Medicago lupulina*,)	6	"
1 lb. white clover,	16	"
1 lb. rye grass,	5	"

But as a large number of the seeds sown do not vegetate, and many of the plants which come up die, it is necessary to sow much larger quantities than are specified; and Mr. M. recommends for an acre, 8 lbs. red clover, 2 lbs. white do., 2 lbs. yellow do., with one bushel of rye grass, which by his computation affords 100 seeds rye grass, 50 red clover, 32 white, and 12 yellow clover, per superficial foot. In this country, a good substitute for the rye grass would be the same quantity of red-top per acre.

IMPORTED HORSE TRUSTEE.—We saw this fine horse a few weeks since, at Morrisania, Westchester county, where he is kept the present season, in charge of Mr. HENRY BOOTH, one of his owners. Though upwards of twenty years of age, he was in excellent condition, and as sprightly as a colt. He is a horse of fine symmetry, and excellent temper, and has been the sire of much good stock.

MORGAN HORSES.—We are pleased to learn that much attention is paid to this stock of horses in Brattleboro', Vermont. Great care is taken in selecting and preserving the best blood; judicious crosses are also made with the finest and most approved English blood, having proper regard to speed, graceful action, and endurance—preserving the distinctive qualities and characteristics of the noble "Morgans."

SHANGHAE FOWLS.—We have received from Dr. E. WIGHT, of Boston, a pair of these fowls, bred from stock imported by him from Shanghae. They are entirely white, and of good size. Dr. W. informs us that though they are not quite a year old, the cock weighed, a few weeks since, nine pounds.

FLEECE OF A "FRENCH MERINO" RAM.—We have received from Messrs. J. C. & J. R. MORRIS, of Morris, Otsego county, a sample of wool from a Merino ram, imported by F. M. ROTCH, and now owned by Messrs. M., the fleece of which, they inform us, weighed "twenty-one and a half pounds, unwashed and of one year's growth." The animal was two years old last spring. The wool is of fair quality.

New-York State Agricultural Society.

A meeting of the Executive Board was held at Rochester on the 5th of June. We are gratified to learn that all the necessary arrangements for the Fair, which is to take place at Rochester on the 16th, 17th, 18th and 19th of September, are in a state of commendable forwardness, and that everything connected with that display is highly favorable and encouraging.

It appears that the steam-boats on Lake Ontario, and the railroads, generally, in the state, have agreed to carry articles and stock for the Fair *free*, and passengers for *half price*, as has heretofore been customary. It is probable other railroads and boats will come into the same arrangement. The President has received instructions from the Government, whereby all animals and articles intended for the exhibition at the Fair, are to be admitted from foreign places free from duty, to be entered according to the provisions of the Warehouse act; and the Fair Grounds at Rochester are to be deemed constructive warehouses, where all animals and articles from abroad, duly entered, shall be under the supervision and custody of the officers of the Customs.

The following superintendents of the different departments of the Fair grounds were appointed:

Cattle—Wm. H. Sotham, Black Rock.
Horses—J. B. Burnett, Syracuse.
Sheep—Lyman Sherwood, Auburn.
Swine—R. Harmon, Wheatland.
Poultry—L. H. Haddock, Buffalo.
Floral Hall—L. A. Ward, Rochester.
Dairy Hall—Israel Denio, Rome.
Manufacturers Hall and Machinery—L. B. Langworthy, Rochester.
General Superintendent of the Grounds and Charge of the Entrances—Henry Wager, Utica.
Mechanical Motive Power for Moving Machinery—Wm. Kidd, Rochester.

The monthly meeting of the Board for August, will be held at Rochester on the 7th of the month.

Albany Prices Current.

Albany, *June* 14, 1851.

The receipts of produce of all descriptions during the past month have been very large—far in excess of the receipts by Canal to the corresponding period last year. The result is, in absence of any large demand from abroad, accumulating stocks and gradually declining prices. The English markets for Breadstuffs and Provisions, hold out little encouragement to shippers, and quotations of the former especially under the influence of promising crops, in Ireland especially, and large receipts from the Continent rule very low. The imports from France alone in 1850, were last year over 4,000,000 bushels of wheat, and 1,000,000 bls. of flour; the receipts this year from the same source are represented to be largely in advance of those to the corresponding last year.

FLOUR.—Our market for flour has been confined to sales on Eastern and River account and a moderate trade demand. The sales have been about 36,000 bls. at quotations. Wheat shows a further decline, and the market still exhibits a downward tendency. We quote common State and mixed brands of Western $3.87a$4, good State and Western, $4a$4.12½; round hooped Ohio and favorite State and Western $4.06a$4.18¾, and Genesee $4.31a$4.44, fancy Genesee and extra Ohio $4.50a$4.75 and extra Genesee $5a$6. The latest quotations from Europe are of 30th May Western Canal flour 16a19s. Philadelphia and Baltimore 20a20s. 6d. St. Louis Canadian and Ohio 19a20s. Sour and heated 16a18s. A sale of 500 bags Corn meal was made at $1.18¾ per cwt.

GRAIN.—There has been a limited business done in wheat; prime samples of Genesee are scarce and wanted; uniform parcels of State or Western are unsaleable here; the transactions are 28,000 bushels at 112½a115 for Genesee, closing at the inside figure, 97a99c. for White Michigan, 87½a90c. for Mediterranean, 91c. for Ohio and 65½c. for Chicago. Rye has been in moderate supply; the only sales have been 2600 bushels in two lots, at 72½c. and 400 do. at 76c.; a lot 21,000 bushels in store at Oswego, was offered here on Thursday last to be delivered at 78c. There has been a fair business done in Oats; the sales are 166,000 bushels at prices ranging from 48 to 43a44c., closing at the lower figures for good samples States and Western. The sales of Barley have been limited and reach 12,000 to 14,000 bushels at 110a95c. as the range, closing at the lower figure with a declining market; included in the sales were 3,000 bushels Scotch Barley at 100c. The supply of Corn during the month has been very large and quotations under the influence of the receipts here and in prospect have further declined. We quote Yellow mixed 56½, and Western mixed 54½c. at which the market has ruled steady for some days; round White for the moment is higher and may be quoted 62a66c.; the sales during the month here and to arrive aggregate 400,000 bushels. Malt retails at $1.25a$1.31¼. The quotations in Liverpool on 30th May, were Wheat, red, 5s. 3d.a5s. 6d. per 70 lbs., do. White 5s. 10d. a6s., do. mixed 5s. 7d.a5s. 9d. Indian Corn, white, 31s. 6d.a32s. per 480 lbs., do. mixed 29s. 6d.a30s. and do. Yellow 30s.a30s. 6d. Yellow meal 14s.a14s. 6d. per brl.

FEED.—The sales which reach 60,000 to 70,000 bushels, show no material change on rates; shorts 13a14c., second quality 18½a23c., and fine feed 100a106c.

HOPS in limited supply; sales crop of 1850 at 40c.

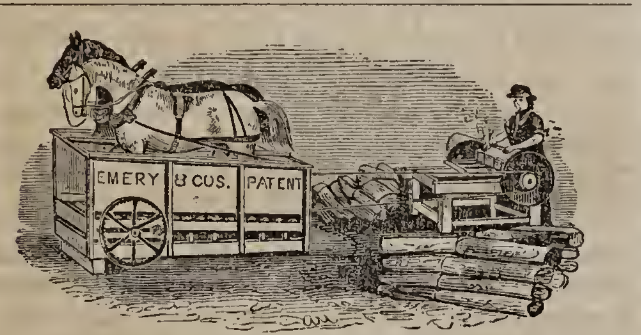
WOOL.—We have no sales to note. The new clip is arriving at the Western markets sparingly, and not enough to make a market.

WHISKEY has followed the decline in coarse grains and can be quoted at 22 for Ohio and State brls. and 22½ for S. P., with sales 700 to 800 bls.

PROVISIONS.—The sales include 500 bls. Pork at $15a$16 for mess and $13.25 for prime. In Beef a sale of 61 bls. extra city mess was made at $11. In Cut Meats there has been a fair business done with sales 400 bls. at 8c. for pickled Hams, 6½a6¾c. for do. Shoulders, and 7c. for canvassed Hams. A sale of 150 bls. Lard was made at 9c. The retail demand has been supplied at $15a15.50 for mess pork, and $13 for prime. Beef $10a10.50 for mess and $6a6.50 for prime. Cut meats 9a10c. for smoked hams, at 7a7½c. for do. shoulders; in pickle 7½a8c. for hams and 6a6½c. for shoulders. Lard 9a10c. Butter 12a14c. for new State. Cheese 5a7c.

SALT is 106¼a112½ per brl. and 9½a10c. per bag.

PLASTER.—Nova Scotia sells as it arrives at $2.87½a3.12½.



EMERY & CO.'S
New-York State Society's First Premium
RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

The Chairman of the Agricultural Society's Committee on Horse-Powers, in a communication written several months after the awarding of premium to the above Horse-Power, says: "I spent much time at the late State Fair, (Sept. 1850,) at Albany, in examining the various Horse-Powers, viz. Wheeler's, Allen's, Ham's, and Emery & Co.'s, first with the owners and makers, and heard all they could say, and again in their absence—and the result most fully convinced me that yours was the best, and if I wanted one, I would give TWENTY DOLLARS more for yours than any others on the grounds; and as you have won the laurels fairly, it is just that you should recieve a full reward."

He further says—"You know from experience that I have no sort of partiality for your establishment, and as a committee-man of said Society for years, I have decided against you oftener than for you; and if others have a better article than you, I would decide in their favor, if the decision ruined your establishment, and vice versa, hurt who it may.

With the testimony of such men as the author of the foregoing, which, together with the changeable gearing, and other important improvements adopted since last season, make it the most Convenient, Durable, Efficient, and Economical Horse-Power now made; and the public may rest assured of being furnished by us with a superior machine.

For further particulars, prices, &c., see Catalogue of Albany Agricultural Warehouse. EMERY & CO.

LANDS ON LONG ISLAND,

ADJOINGING the Villages of Lakeland and Hermanville, about 45 miles from the cities of New-York and Brooklyn, by the Long Island Railroad. The opportunity is now offered to all those who ever wish to obtain land on Long Island, the ancient "Garden of America," that will probably never occur again, for these lands are the only remaining new lands on the Island, and are equal in quality, when cultivated, to any other land.

The results of cultivation on these Island lands have been so great, so much beyond the expectations of any one, that they are now considered of great value for farms and gardens, and will, in all probability, be all taken up for settlement and occupation, or be held at more than five times their present price. All kinds of produce may now be seen growing there, such as wheat, rye, corn, potatoes, and garden vegetables, with fruits and flowers, in the most luxuriant growth, where but a short time since, the land was covered with trees and bushes.

The surface of the ground is perfectly beautiful, free from stone, bogs or marshes, and the climate as healthy as can be found in this latitude. The soil is a fine loam, admirably adapted to high cultivation and great crops, and of easy tillage.

Indeed no New-England or Northern New-York man can form any adequate idea of the difference in the labor and strength requisite to cultivate these Island lands, and that required to subdue their own rugged lands, until he has seen or made the trial; and I now offer for sale as handsome land, and intrinsically as valuable, as can be found within fifty miles of the city of New-York, in any direction, in lots of five acres or more, for the sum of $25 per acre.

Any person wishing to purchase a five acre lot of good and handsome land, without one foot of water or useless ground on it, can do so by sending $10 as a first payment, and the further sum of $10 a month until half is paid, when warrantee deed and good title will be given, and the remainder part of the purchase money may be paid or secured on the land, to be paid within three or five years with 6 per cent yearly interest. Larger lots will be sold on the same terms.

The title is perfectly good—I have a history or deduction of the title complete—certified to by legal men of the highest character, I will send by mail, with maps, pamphlets, and all information, to all purchasers, or those who wish to be informed of these Island lands, by applying to CHARLES WOOD, Stationer, 117 John street, New-York. July 1—2t.

Farm in the Genesee Valley for Sale.

THE subscriber offers for sale his Farm of 212¼ acres, situated in the town of Avon, Livingston county, N. Y., and formerly known as the Tompkins farm.

On the premises there is a new dwelling house, in the Ornamental English Cottage style. The grounds are tastefully laid out with gravel walks and planted with shrubbery. The gardens contain choice varieties of peaches, grapes, &c., and the orchards the best grafted fruit. Attached are a carriage and ice house, barns and tenants houses. The farm is acknowledged to be one of the finest wheat farms in Western New-York.

It has been for years under the most careful and judicious cultivation—is highly improved and in a perfect state of repair. There are about 40 acres of woodland with superior timber.

The Buffalo and Conhocton Railroad now in progress passes thro' the town. The Genesee Telegraph line has an office in the place. The farm is distant about 3 miles from the Avon Sulphur Springs. This place offers inducements to purchasers. For further particulars apply to HENRY L. YOUNG, Avon, N. Y.

July 1—tf.

IRON RAILINGS.

THE subscriber is agent for one of the most extensive Iron Railing establishments in the country, is prepared to fill orders at short notice for every discription of Wrought Iron Railings, and also patent Wire Railing. These Railings are well adapted for enclosures of all descriptions, particularly Cemeteries, Public Grounds, Door Yards, Gardens, Balconies, &c., it is also used for covering for Windows of Stores, &c.

Have also for sale, the English Hurdle fence at a low price. For further particulars respecting prices, and for drawings of Railings, please address by letter or otherwise.

A. LONGETT, Commission Merchant,
Office at the State Agricultural Warehouse.
July 1—1t. No. 25 Cliff street, New-York.

THE WORKING FARMER.

A MONTHLY publication devoted to Agriculture, Horticulture, &c. Edited by Prof. J. J. MAPES, published by A. LONGETT, No. 25 Cliff street, New-York, at $1 per year.

July 1—1t.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany.

McCormick's Patent Virginia Reaper.

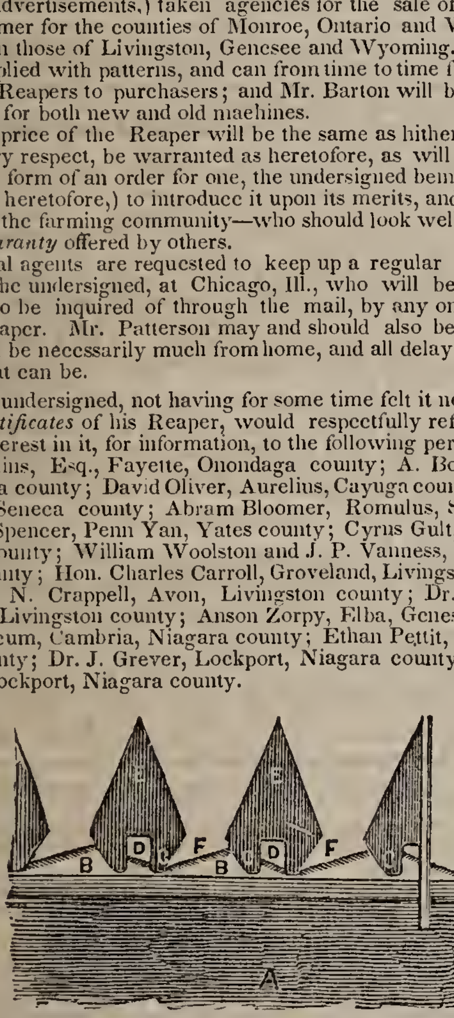
Rochester, May 12, 1851.

THE undersigned, in again offering his Reaper to the Farmers of New-York for the ensuing harvest, deems it unnecessary to say much in the way of an advertisement, having provided for bringing the subject directly to the attention of those interested, by means of traveling and local agents, who are provided with handbills for distribution in the different wheat growing portions of the state, which furnish a fuller account of the Reaper, with the recent improvements made on it, than could be generally given through the newspapers of the country. It is deemed sufficient to say here, that the undersigned has made ample arrangements for the supply of whatever demand shall be found in New-York for his Improved Reaper, (having improved it more or less every successive year since its first introduction,) provided that application for the same shall be made in due time; and that Hon. Thos. J. Patterson of this city will act as his principal traveling agent, and will supply local agents for counties or small districts, with hand bills and all needful information in relation to the Reapers, which will be kept on deposit at Buffalo and Rochester,—and it is also intended to have one at Brockport, and some suitable place in each district, that can be seen, where persons desirous of purchasing would do well to call and examine them. They are referred for them to Holt, Palmer & Co., of Buffalo, and to Mr. Patterson, Joseph Hall, or David R. Barton, Esq., of Rochester. Mr. Hall, well known throughout this state for the last ten or fifteen years, as the most extensive and successful manufacturer of threshing machines in the state, and Mr. Barton, equally well known as the most extensive general "tool manufacturer" in the state, have, (as will be further seen from their advertisements,) taken agencies for the sale of the Reaper,—the former for the counties of Monroe, Ontario and Wayne, and the latter in those of Livingston, Genesee and Wyoming. Mr. Hall will be supplied with patterns, and can from time to time furnish any parts of the Reapers to purchasers; and Mr. Barton will be supplied with sickles for both new and old machines.

The price of the Reaper will be the same as hitherto, and it will, in every respect, be warranted as heretofore, as will be found in the printed form of an order for one, the undersigned being still determined, (as heretofore,) to introduce it upon its merits, and to the satisfaction of the farming community—who should look well to the *form* of the *guaranty* offered by others.

Local agents are requested to keep up a regular correspondence with the undersigned, at Chicago, Ill., who will be pleased at all times to be inquired of through the mail, by any one in relation to the Reaper. Mr. Patterson may and should also be written to, but he will be necessarily much from home, and all delay should be avoided that can be.

The undersigned, not having for some time felt it necessary to publish *certificates* of his Reaper, would respectfully refer those feeling any interest in it, for information, to the following persons, viz: Daniel Collins, Esq., Fayette, Onondaga county; A. Bothwell, Genoa, Cayuga county; David Oliver, Aurelius, Cayuga county; H. Osgood, Ovid, Seneca county; Abram Bloomer, Romulus, Seneca county; E. P. Spencer, Penn Yan, Yates county; Cyrus Gult, Hopewell, Ontario county; William Woolston and J. P. Vanness, Victoria, Ontario county; Hon. Charles Carroll, Groveland, Livingston county; W. F. and N. Crappell, Avon, Livingston county; Dr. C. McKinzie, York, Livingston county; Anson Zorpy, Elba, Genesee county; W. P. Slocum, Cambria, Niagara county; Ethan Pettit, Wilson, Niagara county; Dr. J. Grever, Lockport, Niagara county; Simeon Wilson, Lockport, Niagara county.



The improvement made on the Reaper since the last harvest, which is in the Cutting Apparatus, as shown in Figure 2, consists of a combination of the Shoulder or back angle of the Finger, (as patented and used in my Machine,) with a slightly indented or zigzag edged Sickle, by which arrangement, as seen from the cut, the angle in the Sickle edge is made so obtuse, as, together with the angle of the Finger for *holding the grain to the Sickle*, to effect the most perfect philosophical principle of cutting, by using just the right slope for cutting with the *least resistance*, and in the most perfect manner. The objections to the zigzag edge, as used by Hussey and others, are in this entirely obviated, while all the benefits derived from the use of my Finger are still secured. Without the angle in the Finger for holding the grain to the Sickle, it has been necessary to use so acute and abrupt an angle in the blade to effect the cutting, as to require a very high motion to the blade, and that, with so much friction and resistance as to make the Machine very liable to get out of order—the cutting being done more by means of the *abrupt stroke* against the grain, than by the edge of the instrument. This is understood by every boy who knows how to draw a knife in cutting a stick, and needs only to be stated to be understood by all.

C. H. McCORMICK.

Chicago, May 20, 1851.

EDS. ALBANY CULTIVATON.—Please insert the foregoing advertisement in your valuable Journal—and permit me again to refer your readers to the 186th page of the May No. of the "Cultivator," for Mr *Husseys's* own repudiation of *his* Machines, as heretofore manufactured by his brother at Auburn, N. Y., and elsewhere, which have been the only machines of his sold or offered in the State of New-York. As to his real Simon pure "*Balt. Machine*" which *he now claims* "has driven from the field East of the Alleghany Mountains, every other Reaper," [April No. Cult. p. 149,] I need only say that I sold East of said mountains, *from Chicago*, for the *last harvest*, near 100 Reapers—being a *larger number than Mr. Hussey sold from his Baltimore manufactory altogether*—and calculate to sell *there* for the ensuing harvest at least double this number, 150 having already been shipped; and further to *explain*, that for a few years past, while I have been engaged in the manufacture and sale of my Reapers in the *Prairie country* of the North-west, by thousands, and so extensive as nearly to require my whole attention, Mr. Hussey has been able to sell but *very few there*—whether of Baltimore or other manufacture, and with all the effort he has been able to make *personally*, as well as with all the *agencies* he could procure—and indeed, as I am informed, has not sold from his Baltimore manufactory altogether, "East of the Alleghany Mountains," some 50 Machines a year—while I was able to give but little attention to the supply of that section of the country. And I will only add that, being now prepared to supply the demand for Reapers throughout the whole of this country—Texas, California and Oregon not excepted, and where they are about being introduced—I shall be disposed in future, as "heretofore," to compromise with Mr. Hussey by continuing to supply the *demand of the country* with Reapers, while he may continue to "lay the flattering unction to *his* soul" that his "*Baltimore* Machine" is the "only genuine article,"—and not being ambitious "of making a very large number of Machines, the extent of my (his) business, has heretofore been to fill (a few) orders."

I may say that while Mr. Hussey has *advertised* his Machine for *mowing*, since its first introduction, without success, I *sold* a good number of Machines last year, adapted to mowing as well as reaping, which gave satisfaction, and are believed to be superior to any others yet used; and that they will be so *introduced and further tested* the present season in the different sections of the country—and that the mowing attachment can at any time *hereafter* be applied to the Reapers of this year if wanted.

I shall conclude by referring to a single (subjoined) letter from Maryland, and to the following authorised agents for the sale of "McCormick's Patent Virginia Reaper," viz: H. N. Willetts, Middletown, Del.; L. H. Dowdney, Greenwich, N. Jersey; E. Whitman jr. & Co., Baltimore, Md.; C. Page, Fredericktown, Md.; H. M. Smith, Richmond, Va.; Abner Thompson, Reedsville, Mifflin county, Pa.; Lee Pierce and Lee, Ercildown, Chester county, Pa.; Lewis Moore, Bart township, Pa., and Saml. Whirry, Chambersburg, Cumberland co., P.; T. R. Ebhinton, 53 South Wharves, Phil., principal depot for Reapers East of the mountains. Very respectfully yours. C. H. McCORMICK.

Waterloo, St. Mary's Co., Md., Nov. 12, 1850.

Mr. C. H. McCormick, of Chicago, Illi.: I have been intending to write you ever since harvest, concerning a Reaper my brother and I ordered of you, but have deferred till I am almost ashamed to write, though I think I ought to write. When a man invents any machine which is of essential service to his fellow man, his reward consists not alone in the dollars and dimes which it brings into his pocket, but also in the good report of the progeny of his genius.

My brother and I having rather heavy harvests for our forces, determined to buy a Reaper in partnership. When he was about to start for Baltimore to procure one, I cautioned him particularly "not to get McCormick's," having seen an article in the American Farmer by Dr. M——, of the Eastern Shore of Maryland, in which Hussey's and McC.'s Reapers were compared, as I thought much to the prejudice of McC.'s; but my brother, contrary to instructions, meeting with Mr. Whitman of Baltimore, was induced to purchase one of the forbidden McC.'s Reapers. I commenced in my own crop, in a lot of wheat, some of which was 6 feet 4 inches high, and some not over 3 feet, and it would have done you good to see how she laid it down, with a *green* raker and driver. With this same raker I cut my field of about 70 acres, and my brothers of about 60 acres, and all without worsting the horses one pound in flesh, to all appearances. Mr. Plowdon, who is a large wheat grower, has had one of Hussey's Reapers at work for three or four years, and one might suppose that the appearance of a Reaper would be nothing to attract attention; but it was otherwise. My field was thronged with visitors all the time, both ladies and gentlemen, and all pronounced her work admirable and perfect. So well pleased with it were those farmers who saw it work, that I think I could ensure the sale of at least six in this immediate district, at a small premium. One gentleman, who is a man of few words, after following the Machine about a hundred yards, and eyeing every *rake* and *turn* of the reel, without a word, first made use of this language: "I am done with cradles." Another said—"If I can raise forty dollars I'll have one." I only write these to show, (they are few of the many commendations,) how your Reaper *took* in this neighborhood. I consider it scarcely susceptible of improvement. She has been well tried I assure you; and If I were asked what I consider the advantages of having McCormick's Reaper, I should say candidly, I think the Reaper worth at least $15 per day, besides the saving of enough wheat over and above what the best cradles save, to pay for herself in reaping a field of 50 acres of good wheat. In fine sir, if there could be no more Reapers made, but the privilege of keeping this up by repairs, reserved, I would not take $1,000 for it, and I have heard my brother say the same. Repectfully.

July 1—1t. Z. D. BLAKISTONE.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Transactions N. Y. S. Ag. Society.

THE Tranasctions of the New-York State Agricultural Society vols. 1 to 9, for sale at the Office of "THE CULTIVATOR"—price $1 per vol.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, PROFESSOR OF SCIENTIFIC AGRICULTURE.

THIS Laboratory is now fully organised for instruction in al- branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

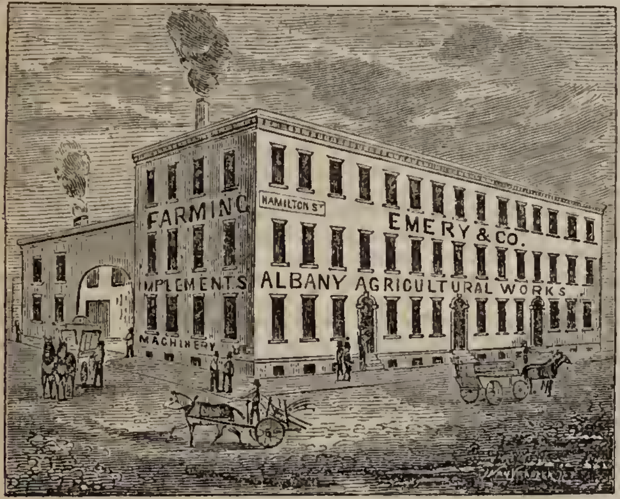
More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. JOHN P. NORTON. New-Haven, Conn. June 1, 1851—3t.



EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Railroad Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April.] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommend and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..	$85 00	
do do Thresher and Separator,.	35 00	
do Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do Two Horse Power,..................	110 00	
do do Thresher and Separator,..	35 00	
do Bands, oiler, wrench, &c.,...........	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,..		$75 00
do Saw Mill, complete for use,.............		$35 00
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,...............	$75
Two Horse Power,...............	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway, Albany, N. Y.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts.

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

LOUIS AGASSIZ, LLD., Professor of Geology and Zoology.

JEFFREYS WYMAN, M. D., Professor of Comparative Anatomy and Physiology.

HENRY L. EUSTIS, A. M., Professor of Engineering.

EBEN NORTON HORSFORD, A. M., Professor of Chemistry.

Instruction is also given by Professor PIERCE in Mathematics, Prof. LOVERING in Physics, and the Messrs. BOND at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel WOOL on Commission. From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for CASH.

The charges for receiving, sorting and selling will be ONE AND A HALF CENTS PER POUND, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

SEEDS.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a yaar.
A. B. ALLEN & CO.,
Merch 1—tf. 189 and 191 Water street, New York.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States.
I. T. GRANT & CO.
May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

JOHN MAYHER & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultura Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

Corn Shellers—Several new kinds, together with all the old and most popular styles in use.

Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels.

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co.
March 1—tf. 197 Water Street, New-York

Emery's Horse-powers and Threshers.

EMERY & CO.'S Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York. G. H. BARR.
June 1—2t.

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.
June 1—4t. G. H. BARR.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.
Bone Dust, Sawings, Shavings, and Crushed, at $2.25 per bbl.
Bone Black, or Burnt Bones, at $3 per hogshead.
Bone Waste, or Bone Manure, at 1¼ cents per lb.
Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.
Sulphate of Soda at 1 cents per lb; packages included at the above prices. For sale at the State Agricultural Warehouse
June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

FARM FOR SALE.

THE subscriber offers for sale 350 acres of land, situated four miles north of Chimney Point Steamboat Landing, on the east shore of Lake Champlain, and ten miles from the Vergennes Railroad depot. The farm is well watered, and has a sufficient quantity of Pine timber to keep it in fence for many years, and a surplus of fire wood. The house is comfortable; the barns, six in number, some new and all in good repair. There are two orchards, which produce grafted fruit of the best varieties. The farm will recommend itself to any one who will take the trouble to inspect it. Also, for sale one thousand good Merino sheep. JONAS N. SMITH.
Chimney Point, Vt., June 1, 1851—2t.

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE,* of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

Directors.—Joseph G. Bowman, Hiram Decker, M. D., Isaac Moss, George D. Hay, John Wise, Alvin W. Tracy, Hon. Abner T. Ellis, Abm. Smith, Hon Thomas Bishop. Joseph G. Bowman, *President.* B. S. Whitney, *Secretary.* Wm. Burtch, *Trasurer.*
Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Morgan Hunter and Morgan Chief.

MORGAN HUNTER will stand the coming season at the stable of S. A. Gilbert, East Hamilton. Terms, $10.00 to insure. This fine horse is seven years old; was bred in Springfield, Vt.; got by Gifford Morgan; dam by the same horse, thus possessing more of the blood of the Gifford Morgan than any other horse now living. For figure and description, see Cultivator for 1849, p. 216.

MORGAN CHIEF will be four years old on the 18th of June next. He is a superior colt; was got by Gifford Morgan, dam by Green Mountain Morgan. He will stand at the stable of H. R. Ackley. Terms, $10.00 to insure. See Cultivator for 1849, p. 67.
June 1—2t. ACKLEY & GILBERT.

Morgan Horse Young Gifford.

THIS splendid colt will be kept at the stable of the subscriber the coming season, for a few mares only. Young Gifford will be three years old in June next; in color chestnut; was bred in Walpole, N. H., by F. A. Wier; got by Gifford Morgan, dam by Sherman Morgan, thus possessing the blood of the best Morgan Stallions on record. In color, form and action, he closely resembles his illustrious sire. Terms, $10.00 to insure. Good pasturage furnished; accident and escape at the risk of the owner. S. A. GILBERT.
East Hamilton, Madison Co., N. Y., June 1—2t.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at 37½ cents per week, but entirely at the risk of the owners.
Syracuse, May 1, 1851—3t. J. B. BURNET.

SIR HENRY ECLIPSE

WILL stand in the city of Albany, at the stable of Wm. W. Woolford, 157 Washington-street, as follows: Five dollars single service, ten dollars the season—insured by agreement. Season to commence the first of May and end the 15th of July. Admirers of good horses are invited to examine for themselves.

PEDIGREE.—His grand sire was the noted horse Sir Henry, imported; his sire the McKinney Henry; his dam from Morgan descent; and in point of beauty and endurance, could not be excelled in the land. Sir Henry stands full seventeen hands, is a dark chestnut, and weighs about 1,400 lbs., and is a perfect model of a horse. He challenges the land for comparison of stock, and is the horse that was awarded the first premium at Buffalo when three years old, and is coming six years old this May. JOHN D. SPINNER.
June 1—2t.

Contents of this Number.

Review of History of Short-horn Cattle,.................... 225
Mixing Plaster and Manures—Irrigation in Switzerland...... 229
Cultivation of the Chestnut,.............................. 231
On Cutting and Curing Grain,.............................. 232
Stephens' Farmer's Guide by Prof. NORTON,................. 233
Pulverization of the Soil—Fattening Cattle in Dutchess County, by AMENIA,,.............................. 235
Drying Fruit—Best Peaches for Drying—To Repel the Black Ant,.............................. 236
Answers to Horticultural Inquiries—Labor and its Pay—Garden Economy at Midsummer,.............................. 237
Timely Hints--Hardiness of the Osage Orange—The Fame of a Name—Experiments with Strawberries—Williams' Favorite Apple,.............................. 238
Pear Blight—New Publications—Inconsistency,............. 239
Plan of of a Dairy House, by GURDON EVANS,.............. 240
Design for Ornamental Carriage-house and Stable,......... 241
The Great London Exhibition, by B. P. JOHNSON,........... 242
Pulling out Stumps, by JOHN JOHNSTON—Farm Fences, by L. DURAND,.............................. 244
Sheltering Manure, by W. C. A.—Erection of Fences, by B. M. E.—Time for Cutting Timber, by E. D. A,............ 245
Remarkable Swine—Ayrshire Cattle in Berkshire County, Mass.,.............................. 246
The Great Exhibition—English Agriculture, by B. P. J.,..... 247
The Banner Wheat—Answers to Inquiries, &c.,............ 248
Notes for the Month—To Correspondents, &c.,............ 249
Albany Prices Current,.............................. 251

ILLUSTRATIONS.

Plan of a Dairy House,.............................. 210
Plan of an Ornamental Carriage-house,............... 211

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are nowprepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot	in length,	per thousand,	$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices.

The establishment is at *Latourette's Point, Fresh Kills*, near *Richmond, Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I., or
E. J. DUNNING, No. 1 Bond-st., New-York.
Staten-Island, July 1—tf.

DRAIN TILE WORKS, ALBANY.
60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

Stock and Dairy Farm For Sale.

THE subscriber offers for sale his farm, in Windsor, Broome co. four miles from the Erie Railroad, and eight miles from Binghamton.

It consists of 400 arces, 300 of which are improved, with a dwelling house, barn, sheds, and a Pine Apple Cheese manufacturing establishment thereon. The land is of excellent quality for grazing or grain growing, and will be sold together or divided, at an inviting price, with or without the stock.

Applicants may call on M. Hawley, James S. Hawley, or A. Doubleday, Binghamton, for price, &c. ELI PRENTICE.

Chenango, July 1—2t.*

Full Blood Devon Stock for Sale.

THE subscriber will dispose of 10 or 12 head of his pure Devon Stock, consisting of Cows, Yearling Heifers, Bull and Heifer Calves, and one Bull two years old. This stock was derived principally from the herds of R. L. Colt, Esq., of New-Jersey, and Geo. Patterson, Esq., of Maryland. The Cows are excellent milkers, and the Yearling Heifers and Young Stock, are very beautiful animals.

The two year old bull was got by Rover, a Full Blood from the stock of Lewis F. Allen. Dam, Ellen, a Prize Cow from the stock of Mr. Colt. ROVER was by the Imported Bull ECLIPSE.

I will also sell my fine MORGAN STALLION YOUNG GIFFORD, four years old this spring; a colt of the Old Gifford Morgan, his dam a Morgan Mare. Also a fine Morgan Mare by the same Horse, and same age—her Dam by Morgan Eagle, Grand Dam by the original Justin Morgan Horse. MORGAN EAGLE was got by old WOODBURY MORGAN, well known as the sire of the Old Gifford. The Mare has a foal by her side by the above Horse.

Both of these animals are fine and very promising, and among the the very best specimens of this distinguished breed. For terms, &c., address "post-paid," WM. L. COWLES.

Farmingon, Ct., July 1—2t.

Youatt's Great Work on the Horse.
Sent by Mail, post-paid.

NOW ready, a new edition of "Youatt on the Ssructure and Diseases of the Horse, with their Remedies," also practical rules to buyers, breeders, breakers, &c., brought down to 1849 by W. C. Spooner, the celebrated English Veterinary Surgeon, to which is prefixed an account of the breeds in the U. S., by H. S. Randall, Esq., with 55 illustrations—price $1,50, on receipt of which post-paid (if mailed in presence of P. M., at our risk,) we will forward the work, postage paid to any P. O. in the U. States. Address, post-paid,

July 1—3t. DERBY & MILLER, Auburn, N. Y.

Best Fruit Book.
Sent by Mail free of postage.

J. J. THOMAS' American Fruit Culturist, with 300 illustrations, new (6th) Edition just published, price $1.00, on receipt of which post-paid, we will forward a copy by mail, to any P. O. in the United States, free of postage. Address

July 1—3t. DERBY & MILLER, Auburn, N. Y.

HARVEST TOOLS.

GRAIN CRADLES, of Bryant's, Bailis, and other makers. Snaths, patent and plain. Scythes, of Harris', Blood's, and Waldrons. Hay Forks of various makers. Horse and Hay Rakes. Scythe stones and rifles. For sale at the lowest cash price by

G. H. BARR, State Agricultural Warehouse,
July 1—1t. No. 25 Cliff street, New-York.

Practical and Scientific Agriculture.
NEW AND VALUABLE SCHOOL BOOK.
Agriculture for Schools.

MARK H. NEWMAN & CO., 199 Broadway, New-York, have just published a most interesting and useful Reading Book, entitled *Lessons in Modern Farming, or Agriculture for Schools*, containing Scientific Exercises for Recitation, and elegant extracts from Rural Literature, for Academic or Family Reading, by Rev. JOHN L. BLAKE, D. D., author of "Farmer's Every Day Book," "A General Biographical Dictionary," and "Family Encyclopedia of Useful Knowledge," &c.

The attention of Farmers, Teachers and School Officers is invited to the merits of this Book, containing, as it does, much valuable instruction on the subject of Agriculture. The following subjects are treated in a familiar and practical manner: Agricultural Chemistry—Implements—Organs and Structure of Plants—Food of Vegetables—Theory of Manures—Nature and Variety of Soils—Approved Modes of Tillage—Rotation of Crops—Physiology of Animals—Milk, Butter and Cheese—Theory of Feeding, &c. &c.

The design of this Book is to store the mind with Practical Agritural Knowledge, in connection with the Rhetorical Exercises of the Scholar.

The Book contains 432 pages, and is substantially bound. The retail price is $1, and they are furnished to schools for $9 per dozen.

July 1—1t.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.
Fresh Garden Seeds, a large assortment of the various kinds. Also, Field Seeds.
Lawn and other grasses.
Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c.
Guano, Bone Dust, Poudrette, and other ertilizers.
Prompt attention given to all orders by letter or otherwise.
March 1—tf.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, AUGUST, 1851. VOL. VIII.—NO. 8.

AGRICULTURE OF OHIO—No. 1.

BY W. G. EDMUNDSON.

HAVING made it a considerable portion of our business during the past two years, to become familiar with the various systems of agriculture practiced in Ohio; and having also obtained a pretty thorough acquaintance with the agricultural resources of the state, by personally visiting some fifty counties, it is with much confidence, we set about the task of preparing a series of practical papers for THE CULTIVATOR, that will furnish to its readers a correct and in every respect reliable account of the present condition of the agriculture of Ohio, as well as a full description of the quality of the soil, its value, and of other facts bearing a close relation to the productive interests of the Buck-Eye State.

Ohio occupies a proud position among her sister states in point of her agricultural resources. She has become celebrated for her wheat, corn, pork and beef; and in fact her soil and climate are sufficiently varied to adapt them for the profitable growth and production of all the grains, seeds, fruits and vegetables, that are necessary to supply the wants of man or beast.

In order that we may be understood, and that the practical farmer may derive some pleasure and profit whilst perusing the facts and deductions that we shall have occasion to glean from the wide-spread book of nature and of art we see in our mind's eye spread before us, whilst occupying, as nearly as possible, a central position in this great and progressive agricultural state, we shall for convenience sake, both for the writer and reader, divide and subdivide our varied subjects under appropriate heads, as may from time to time be thought necessary for the full discussion and elucidation of the interesting theme selected for illustration.

THE CULTURE AND MANAGEMENT OF THE WHEAT CROP.—The state of Ohio produced the past year at a low estimate, 35,000,000 bushels of wheat, of which at least 20,000,000 will be a surplus. This probably is the largest yield that has ever been produced in this or any other state or country, of the same area, in a single year. The wheat lands proper of Ohio are limited somewhat in extent, but more or less of this crop is cultivated in every county of the state. Systems of culture that find favor in one region of the country, could with difficulty be introduced in others; and hence the necessity of going pretty fully into detail, for the purpose of pointing out the various modes of culture practiced, with the comparative results both as it regards the crop and the effects produced on the soil. The counties most celebrated for the production of wheat are Knox, Licking, Richland, Ashland, Wayne, Stark, Muskingum, Fairfield and Belmont. These counties produced the past season, in the aggregate at least 10,000,000, of which Stark and Wayne yielded each 1,250,000 bushels. The average product per acre throughout those counties may be rated at 20 bushels; some favorable townships at 25 bushels, not a few highly cultivated sections or neighborhoods at 30 bushels; and in very many cases individual farms averaged each a yield of 40 bushels per acre. The wheat counties in the main embrace a region of country that is located on the dividing ridge that separates the waters flowing into Lake Erie and the Ohio river. About one-half of this region may be nominated hilly, and the balance rich valleys, and table lands. But a very small portion is too hilly for the profitable cultivation of the cereal grains; and the valleys are generally sufficiently dry for the growth of wheat. The value of the valley land ranges from $30 to $40 per acre; the moderately hilly and undulating at from $20 to $30; and the high table lands at from $15 to $20 per acre. In favorable seasons, the valleys produce the largest yield per acre, and in seasons like the past, from 35 to 40 bushels per acre was harvested on the rich corn lands, with no other cultivation than what was given in the management of the corn crop.

The best and most certain land for wheat is the high rolling up-land, covered with a thick growth of oak timber. This is the prevailing timber of the most valuable wheat land in Ohio; though such a description of soil as abounds in an oak country requires a very different system of management from soils that were originally covered with a thick growth of sugar maple, elm, black walnut, and cherry. The latter, for all other description of crops except wheat, is the most valuable, and even for the latter crop, if it were not for the influence of rust, would produce a much greater average yield than the thinner description of soils, such as prevail where oak is the principal timber. Timber of the varieties enumerated is very abundant on the valleys bordering the streams, and the quality of the soil, and its value, may be pretty accurately ascertained by obtaining a knowledge of the timber grown upon it. The original rocks of the country as well as its general geological formation have of course something to do with the character of the soils; but as a general thing, unmistakeable evidences are afforded of the quality and value of the soil by the prevailing timber with which it was originally covered. This fact is here mentioned, so that the reader will readily comprehend what is meant, when allusion is made to systems of agriculture that are pursued on different soils, being indicated by the character and quality of the timber which prevail in the region of country under consideration.

SYSTEM OF CULTURE PRACTICED ON THIN OAK-LAND.—The cultivation of clover as a preparative crop for wheat, is more generally practiced on the oak lands, such as abound in Richland, Ashland, Wayne and Stark counties, than in any other portion of Ohio. In these and a few adjoining counties, the system of making naked summer fallows prevails very generally; and indeed but very little wheat is sown in any other way, by those who make it a point to make their wheat crop their main dependance. The summer fallow is usually made on a two year old clover sod. It is rarely broken up before the 1st of July, and after which it is allowed to remain almost untouched until the first week of September, when it is again plowed, usually lengthwise of the first furrow, to be sown for wheat. The seed is then covered either with a harrow, cultivator, or shovel plow, and in some rare cases with a drilling machine, which completes the whole process. The white varieties of wheat are the most popular, and hence the farmers in this region obtain higher prices for their wheat than those who sow the thick and dark bran varieties. The quality of the wheat for flouring purposes, grown in the most celebrated wheat counties, is equal to that produced in the country bordering the Genesee valley. Nothing in fact can excel it; but unfortunately for the character of this wheat, it becomes mixed in too many cases by either careless or interested purchasers, which detracts from its value by the time it gets into the eastern market, from 10 to 12½ cents per bushel. A common practice among the Buffalo jobbers, who deal largely in western wheat, is to take Ohio white wheat, weighing from 60 to 66 lbs. per bushel, and mix it in nearly equal proportions with Illinois or other northwestern spring wheat; the whole of which is sold to the miller at an advanced price on the value of the spring wheat, but in reality the real worth and character of the superior article are very considerably deteriorated. This practice is often done by the local purchaser in order to reduce the cash value of the white wheat down to the same standard that is paid for the common coarse varieties. By this practice the grower sustains a loss of some 10 cents per bushel, besides the general character of both the wheat and flour of the country is damaged in the eyes of the eastern export merchants.

In some cases, the whole of the manure made on the farm is spread upon the clever sod just before it is broken up; and where the soil is naturally thin in vegetable matter, this practice, in connection with turning under a heavy growth of clover, is found to increase the quantity of straw and the yield of wheat, to an extent that richly repays for the labor and expense attendant upon that course. The growth of clover appears so natural to the soil, that as yet but little attention has been paid to the application of artificial manures to the young clover crops; but in seasons of extreme drouth especially, an expenditure of a few shillings per acre, in the purchase of gypsum for this crop, would be instrumental in giving a uniform heavy growth, where without such agency, only a stunted and unprofitable product would be realized. This is being understood by a few enlightened farmers; and occasionally instances may be met with, where the advantage resulting from the use of gypsum is acknowledged and appreciated; but strange as it may appear to those who have seen the wonderful results produced by the extensive use of this powerful fertilizer in central New-York and elsewhere, only now and then a farmer in Ohio seems to have any correct notion of its properties, and the powerful fertilizing influences effected on all broad leaved plants.

Within the past three or four years the very rational opinion has gained ground, that under a careful system of rotation of crops, the plan of making naked fallows may be dispensed with altogether. This system however is only adapted for certain descriptions of soils, and it is questionable whether it is susceptible of universal adoption, even under the most careful mode of management. The course at present pursued, and the one alluded to, consists of plowing under a pretty heavy growth of clover, about the middle of August. It is then allowed to remain undisturbed until about the 10th or 15th of September, when the seed is sown and covered, either with a steel tooth cultivator or shovel plow. The opinion is fast gaining ground by farmers who have fully tested the system on a large scale, that a much larger yield of wheat per acre may be had from a single furrow, than if the land had been plowed two or more times, and brought to the highest possible state of tilth by an expensive process of frequent plowing. It is very obvious that if the land be in a high state of cultivation when seeded down with clover, and only one crop of clover hay, or a season's pasturage be taken from it, before it be broken up, that the soil must be improved in tilth, rather than otherwise by being seeded with clover. Clover, like all broad-leaved plants, obtains a large proportion of its food from the atmosphere; and being a smothering crop to a much greater extent than any other field crop, the inert vegetable ingredients in the soil, as well as its inorganic properties undergo a mechanical change which eminently prepares it for the succeeding crops, especially those of cereal plants. These considerations in connection with the salutary influence that the millions of large tap-roots have in percolating the ground so as to admit the air into the heart of the active soil by which the floating gases in the atmosphere, produced from decayed vegetable and animal substances, increase the fertilizing properties of the soil, which in connection with the large amount of vegetable manure of a suitable character for the wheat plants that is produced from the roots of the clover, are conclusive evidences, to the mind of any scientific farmer who will take the trouble to investigate the subject, in favor of the system of plowing only one furrow for wheat, where the soil and its previous preparation are of the description here alluded to. To what extent this cheap plan of growing wheat may be extended is difficult as yet to determine, but it is quite certain that extraordinary yields are produced by this method throughout many portions of the best wheat growing counties in Ohio, and when the value of the clover crop for hay or pasturage is taken into account, it brings the cost of producing wheat to a mere nominal standard when compared with the expensive process of making a naked summer fallow as is usually done in New-York and Pennsylvania. Those farmers who have adopted the system alluded to, find no difficulty in getting an average crop of 30 bushels of marketable wheat per acre; and the crop is less liable to rust than by any other system yet practiced. Besides all this, it enables the grower to sell at a remunerative profit, when to others the price of wheat in the markets might be ruinously low. Before closing this branch of the subject it is proper to remark, that the farmers in Ohio are not troubled with wild mustard, Canada thistle, nor wire grass, or in fact any other difficult class of weeds, that so much perplex eastern farmers; and on this account one plowing does the land as much good in preparing it for crops, as two plowings would do in any of the eastern states of the Union, and hence it is only in suitable cases that so cheap a plan could be successfully adopted in the growth of wheat.

In some instances wheat is made to follow the oat crop, in which case the latter succeeds a crop of corn, which if well cultivated leaves the ground in a good condition for oats. Where this plan finds favor, only one plowing is given for the wheat crop, and if the land be tolerably rich, the average product generally equals about twenty-five bushels per acre in favorable seasons. Whilst the land is new and rich, this barbarous system might with some excuse be perpetrated, but, although it may afford a greater immediate return, than those in which green crops are made to alternate with yellow crops, yet in the end it will positively exhaust the soil of its fertilizing properties, and lessen its value quite equal, if not to a greater extent, than if a more rational system of culture had been practiced. A still worse practice than this is adopted by some, who fancy they have some claim to the appellation of scientific farmers. Allusion is now made of sowing wheat after wheat, for a succession of years, by simply allowing occasionally a crop of corn to intervene. The past season thousands of acres were sown in this way, and at the present time, (the 1st of June) a finer prospect for a full average crop could not be desired. On the 1st of July last whilst passing through the wheat belt of Ohio, the farmers were busily occupied in harvesting the finest crop of wheat, that was ever produced in any portion of the Union, a very large portion of which averaged from 25 to 40 bushels per acre; and now whilst passing over the same ground the same broad acres in many cases are covered with the same description of grain, which to all appearance will be equally productive. If such favorable results are obtained by a small outlay of labor and skill, why not continue the practice? In reply, we argue that in rare cases it may be done with impunity for a series of years, but in the main it is carrying out the principle laid down in one of Æsop's fables, in which to satiate avarice, the goose was killed that laid the golden egg. The vegetable is like the animal kingdom, governed by certain unerring laws, and when those are violated, disappointment and suffering must necessarily follow. All vegetable plants require certain organic and inorganic ingredients, to promote and perfect their growth. If the soil contain a very large supply of the requisite food for certain plants, provided it be kept in a proper tilth for those plants, there is no good reason why precisely the same description of crops should not be made to succeed each other for a succession of years, on the same soil. This however is a nice point to ascertain, and as a general thing it is dangerous to adopt it, and in fact we would not encourage its practice under any circumstance, believing that in the end it would be better to pursue a regular course of rotation of crops, allowing wheat, even on the very best wheat soils, to grow on the same land only once in three or four years.

The foregoing is the practice in the counties mentioned, as well as in favorable sections for wheat in other portions of the state. In the southern, central and western range of counties, the almost universal practice is to sow wheat after the corn crop, or with it before it is harvested. Naked fallows are rarely if ever made in the corn and grazing regions of Ohio. On this account a much more slovenly practice of managing the wheat crop prevails where corn and grass are the main dependance of the farmer, than where wheat forms the principal staple. Honorable exceptions, however, are made to this rule in every county and neighborhood of the state, and on the whole it may in fairness to the Ohio farmers be added, that as a class they are anxious to adopt the most approved system of culture, when their merits are fairly brought under their notice.

The past harvest, throughout the whole of the corn growing counties of Ohio, the samples of wheat, whether sown early or late, in good condition or bad, were uniformly heavy and fair; and in many cases the yield was abundant, even when sown after corn, oats and all the other varieties of grain, as late as the last week in November. On the whole, however, those who took pains in preparing the land for the crop, obtained a much larger product than their more slovenly neighbors; and besides it was in better condition for succeeding crops than if a small amount of labor had been expended in preparing the soil for the preceding one. But it is evident, that so long as the fertility of the soil is such, as to secure a heavy crop, with a small expenditure of labor, that only a few can be pursuaded that it will pay cost to adopt more expensive systems of culture. These influences and others of a like character, prevent to a great extent, the adoption of systems of farm management, that in other counties would be considered essential to success. This fact is here mentioned to show that a superficial observer from other counties, passing through Ohio, might err materially in judgment, whilst condemning much of the farming he saw practiced. Much, that at first sight appears objectionable, upon a close examination, is the best that could have been adopted. But nevertheless in many important particulars their is room for improvement, and owing to the mixed character of her people, and the great inducements that are held out for the adoption of every real improvement in the cultivation of the soil, the inference may be fairly made that the Buck-Eye state will not lag behind her sister states in any particular, in engrafting upon her systems of agriculture the improvements of other countries, that would be found applicable for her soil and climate.

It should have been mentioned that in sowing wheat among corn, a practice is obtaining favor, which on level or table land especially, deserves at least a passing notice. The corn is planted in rows about four feet apart, and the hills two feet asunder in the rows, which is worked from three to four times between the rows with a corn plow and cultivator; and from the middle of August to the 10th of September, it is sown with wheat and plowed in, forming neat little ridges four feet from furrow to furrow, which thoroughly carries off from the surface any redundancy of water that might be prejudicial to the wheat crop during the winter and spring months. The corn is not usually cut up till November, and the wheat by being sown early, gets deeply rooted, and the ground becomes thoroughly covered and matted with the plants before the setting in of winter.

The remarks on the subject of wheat culture in Ohio might have been much enlarged, but sufficient has been said to afford the general reader some idea of the most popular modes of culture adopted in this great wheat growing state.

In the next number of The Cultivator, the cultivation and management of the corn crop in Ohio, will form the basis for a few remarks from the pen of the writer of this communication. *Mt. Vernon, Ohio.*

A Sketch of the late Judge Hays.

Editors of the Cultivator—The true republican gentleman, the sound lawyer, the distinguished farmer of South Berwick, Me.,—Hon. William A. Hayes—is no more. We may well mourn his death. Throughout a long life-time, he was a zealous, constant, and efficient contributor to the advancement of the Agriculture of his country. But his bright example lives; and from such a life an influence for good goes forth, mysteriously but surely extending itself, far beyond the limits of a district, or the life-time of a generation. I would in some humble measure aid the progress of that influence; and I now present your readers with a brief sketch of the life and doings of our departed friend.

William Allen Hayes was the youngest of three brothers, children of David Hayes, and was born at North Yarmouth, Oct. 20, 1783. At the early age of nine years, death deprived him of the watchful solicitudes of a mother; and in three years after, of the protection and counsels of a father. The three orphan brothers, the eldest then but fifteen, continued at home, keeping house together without assistant or domestic, William working on the farm in summer, and attending the district school in winter, until, at the age of fifteen, he was invited to become the teacher of that same village school. Having now determined to obtain an education, he commenced a preparation for college under the tuition of Rev. Mr. Anderson, the minister of his native town, amid the labors of the farm in summer, and of school-teaching in winter. In the year 1801, at the age of seventeen, he disposed of his slender patrimony to his two brothers, and with the avails,—far too small to obtain him an education,—he entered Dartmouth college. He struggled along through his collegiate course, partly paying his way and incurring a debt for the deficiency, to be paid in after life. Devoting himself to study with earnest application, he graduated with the highest honors of a class, numbering among its members, Rev. Francis Brown, D. D., afterwards President of Dartmouth College, Rev. Dr. Osgood, an eminent divine of Springfield, Mass., Dr. Wilson, "one of the finest scholars in New-Hampshire," and Rev. Henry Colman, the distinguished writer upon agriculture.

It is gratifying to contemplate the onward and upward course of our poor orphan boy. Early thrown upon a world where good and evil are strangely commingled, he chose the good; the obstacles that met him in his progress forwards he either cast out of the way, or mounted over; a stern discipline habituated him to that persevering industry, that choice and pursuit of virtuous noble ends, that reliance upon personal effort, that decision of character, which, attending him through life, ensured personal success, enabled him to occupy a wide space of usefulness to others, gave constantly increasing value to the progress of that life, and dignity to its close. What a lesson have we here upon the subject of unintermitted personal effort.

Mr. Hayes, upon leaving college, accepted the appointment of Preceptor of Moor's Indian school at Hanover, a classical institution connected with the college. Relinquishing this position at the end of one year, he commenced the study of law, under the instruction of the Hon. E. Whitman, at New Gloucester. In a few months after, he entered the office of Dudley Hubbard, Esq , of Berwick, and after remaining there two years, went to Charlestown, Mass., finishing his studies there under the instruction of Hon. Artemas Ward, afterwards a chief justice of the Common Pleas.

In 1809, Mr. Hayes was admitted to the bar, and entered at once into practice at South Berwick. He soon attained notoriety in his profession, and continued in a laborious and distinguished career for over forty years. Notwithstanding the varied and constant demands of a business larger than that of any other lawyer in the county, or perhaps in the State, he yet found time to engage in various public and benevolent labors. He was for twenty-five years President of the York County Bar, and was one of the founders and the constant generous patron of the Law Library Association connected with that Bar; for about the same time he was President of Berwick Academy, a Classical Institution, which he was instrumental in founding, and towards which, with then very limited means, he subscribed $500; for twenty years he was judge of Probate for York county, in which capacity he is said to have had no superior. He held the office of a Trustee of Bowdoin College for several years, and was one of a board of visitors and examination at the Military School at West Point. He engaged in various other public labors with ability and usefulness, performed numberless acts of private benevolence, and was a marked character in society every way.

As a man of business, Judge Hayes possessed rare qualities. His views were far reaching and comprehensive; he was endowed with superlative good sense, and with sound judgment; his legal learning was solid; he was untiring in industry, and systematic in arrangement of affairs; he had sagacity to penetrate his subject, and power to reduce it to its plainest principles; and by a remarkably simple, direct and decisive manner of reasoning, forcibly impressed his ideas upon the minds of others.

Education found in him a powerful advocate, and fast friend. Having experienced its benefits, he endeavored to inspire all within his reach with a love for sound learning. One of his highest solicitudes for his children was that they should be well educated, as a principal and efficient means of personal respectability and permanent usefulness. He considered no effort too great for him to put forth on behalf of the intellectual culture of his family. Upon the education of twelve children, he expended, of the hard earnings of an industrious energetic life, the sum of $50,000, thus laying them under lasting obligations to use well the advantages so kind a father had procured them, at such cost. His efforts did not end with his own family. He delighted in encouraging poor deserving young men in a course of study, and helped many by communications from his own large experience, and by loans of money. As President of Berwick Academy, he was constantly watchful for its prosperity,—so managing its funds as to make them increase a thousand dollars in his hands,—was solicitous of the welfare of all who came within its walls, personally examined the qualifications of its various teachers and of the successive classes of scholars about departing to higher seminaries, always imparting to them wise counsels and kind encouragement.

Our friend was a great lover of *the useful*, and taught his family to love and seek the same. He was untiring in his efforts to impress the minds of his children with the importance of setting before themselves virtuous useful ends, and of bending every faculty to their attainment; telling them that in the path of duty,—that in duty performed,—they must alone expect that measure of happiness this life can give, and felicity hereafter. It was a favorite maxim, often repeated by him, that "*Doing* makes the man." He would say that *doing*—making earnest effort—strengthens the judgment, enlarges all the faculties,—that wisdom may increase by effort, as well as muscular activity. Another maxim, derived from Solomon, he frequently rehearsed to his sons, with great emphasis: "Seest thou a man diligent in business? He shall stand before kings; he shall not stand before *mean men*." How much of the true patriot, as well as the wise father, was exhibited in the domestic life of our departed friend! Surely there can be no safe-guard to the institutions of our country, at all comparable with such family training. He constantly held up the idea to his children that their future usefulness and success depended upon themselves,—that their characters and standing in life were entirely at their own disposal. He taught them by precept, and also by his own shining example, that education does not end with youth, but is rather the business of a life-time,—that they must be always learning, always seeking for and storing up knowledge, always turning it to useful, practical account. A great writer well remarks,—and we here find a practical illustration of his remarks—"that judicious education anxiously displays to its pupils its own insufficiency and confined scope, and tells them that this whole earth can be but a place of tuition, till it become either a depopulated ruin, or an elysium of perfect and happy beings. Its object is to qualify them for entering with advantage into the greater school where the whole of life is to be spent, and its last emphatic lesson is to enforce the necessity of an even watchful discipline, which must be imposed by each individual *self*, when exempted from all external authority. The privileges, the hazards, and the accountableness of this maturity of life, and the consignment to one's self, make it an interesting situation. It is to be entrusted with the care of a being infinitely dear, whose destiny is yet unknown, whose faculties are not fully expanded, whose interests we but dimly ascertain, whose happiness we may throw away, and whose animation we had rather indulge to revel than train to labor. * * * Everything is education; the trains of thought we are indulging this hour; the society in which we shall spend the evening; the conversations, walks, and incidents of to-morrow. And so it ought to be; we may thank the world for its infinite means of impression and excitement, which keep our faculties awake and in action, while it is *our* important office to preside over that action, and guide it to some divine result."

A lasting monument of Judge Hayes's usefulness may be found in his life as a farmer. He had been settled in the practice of law but a few years, when he purchased 160 acres of land situated a little out from the village, moved immediately upon it, and there reared his family. It is one of the oldest settled tracts of land in that part of Maine; and at the time of his purchase, it was thoroughly worn out, and turned mostly to pasturage. He determined to make it gradually more productive, by steady, but at no time extravagant investments of capital,—a principal and favorite idea with him being to set an example in farming that any man of moderate means and some enterprise might follow with safety and advantage. He once remarked to me, that after his means became ample, he often felt a temptation stealing over him to enter largely into investments for the improvement of his estate; but he had permitted his original idea to prevail, and the farming had not been suffered to run in debt to him. He was a pioneer in his state in what is denominated The New Husbandry,—in the making of compost manures, the systematic rotation of crops, the introduction of improved implements and farm-stock, in reclaiming wild wet land, and in restoring fertility to old worn-out land. He was in the habit of devoting the early hours of day to the farm; and this not only extended his sphere of usefulness, it also added length of life, and enabled him to bring freshness of mind and a robust body to the discharge of professional and other duties. In advanced life, he found high enjoyment and grateful recreation, in surveying the improvements that had been progressing for a life-time, and in carrying those improvements forward to a completion. He went forth to the fields, armed with all the theories of agriculture; and so far as science has yet been able to explain, he could explain the principles by which nature operates; which, added to his own keen perception, and a scrutinizing observation which saw everything, fitted him to be, what he was, a model farmer. Anybody—no matter who—could learn something in a day spent with Judge Hayes upon his farm.

Thoroughness, systematic arrangement, and an adaptation of one thing to another, were characteristics of our friend's farming. He would do things thoroughly on the score of economy, if for no other reason, and in all expenditures for improvements, he looked forward to a course of years, rather than at one day or year. When a few years ago it became necessary to provide more space for the storage of the increasing crops, he erected an immense barn, placing it upon a southern slope, in order to gain warm cellars underneath it for manure and for the root-crops, and warm yards for the stock. The portion of the barn over the cellars was founded upon heavy granite posts, and the remainder upon granite walls. So also in building a grain barn, a sloping site was chosen, in order to obtain a ground story for the storage, without confusion, of carts and all sorts of implements. Here they might always be found, when not in actual use, and of a quality and variety adapted in the best manner to lighten labor, work the ground efficiently, and harvest the crops. A farm-road was early laid out and fenced through the premises, dividing them about midway. At the entrances to the lots on either side from this road, where too many farmers would have placed unwieldly bars, consuming time in their removal, and liable to be often out of order, Judges Hayes hung substantial gates with heavy iron hinges, upon granite posts, and there they have swung for years, without trouble or expense, monuments of economical management. In this strain I might enumerate many other things.

Our friend displayed benevolence as well as calculation in the care of farm-stock. It was his constant study to make domestic animals as comfortable as possible, at all seasons of the year; in summer by good pasturage, convenient shade, and an abundance of pure running water—in winter by stated clock time for feeding,—with a rule that each animal should have enough to eat but waste nothing,—by warm, roomy, well-littered stables with comfortable tie-ups, by warm yards and sheds with pure water in them. The piggery planned by him is not excelled by any in the country, for adaptation to the making of compost, for comfortable cleanly eating and sleeping apartments, for convenience of feeding and for cooking and storing food for the swine family.

Judge Hayes considered the making of manure as *the* business of primary importance, in New-England farming; and that anything which would contribute to that purpose, was not beneath his attention. His industry and care in gathering materials for the compost-heap hardly had a parallel. Bushes of one years' growth, ferns and coarse grasses left by the cattle in the pastures, the wild-grasses of the unreclaimed lowlands, potato-vines, leaves from the forest, refuse straw,—in short, all kinds of refuse vegetable substances on or about the farm, were gathered up and taken to the stables and yards, for litter and for manure. From a swamp near by, several hundred loads of muck were annually carted to the barn-cellar and yards, and to the piggery-yards. By this constant vigilance and industry in collecting materials, the annual accumulation of manure was very large, and of course the fields were constantly advancing in productiveness. Indeed it was no part of his farming to allow the land to deteriorate, or even to stand still,—every thing must move onward to a higher condition. Many young farmers, applying to Judge Hayes for advice, were shown how they might three and four-fold their manure heap, and thus improve their land, and enrich their pockets.

The arable lands were put under a regular systematic rotation of crops. The first year of each rotation the land was manured with ten cords of compost to the acre, the sward was nicely turned under by the plow, and some kind of a hoed-crop raised, with clean cultivation. The next year grain and grass-seeds were sown and harrowed in, without disturbing the decomposing sod underneath, and a grain crop harvested. For about four years after, the land produced hay. By this course, together with a steady progress in reclaiming waste wet land, our friend lived to realise an annual crop of over 100 tons of nice hay, from a farm, which, at the outset, only produced forage enough for the wintering of six cattle and one horse.

The farm extends over a high swell of land, of a sandy and gravelly soil, with low-lands of clay soil on one side, and of peaty soil on the other side. Very satisfactory results were derived from the admixture of these soils. Something was done each year at this business, at times when the teams had leisure for it. Many dry knolls have been permanently changed for the better by a covering of clay, and so have the low-lands been improved by a covering of sand and gravel.

Probably no man began earlier, or has done more to improve his pastures, than did Judge Hayes. Some of the lots have been alternately in pasture and tillage, with favorable results. Others have been exclusively devoted to pasturage, and more than doubled in produce by plowing the sward under once in six or seven years, and re-seeding to grass—sowing winter-rye at the same time, to be fed off by the stock while the young grass got root. The quality of the herbage of the pastures has been greatly improved, as well as the quantity increased. On spots where wild plants originally flourished, good sweet grasses have been brought in to take their place.

Judge Hayes exhibited a good specimen of farming upon his reclaimed wet land. A bog-meadow of some 60 acres, in its natural state a wild morass, covered with bushes and worthless herbage, was gradually converted into a beautiful green meadow, producing fine crops of herds-grass and red-top hay. With his ample capital, the work of reclaiming this tract of land might have been completed years ago, and had he consulted himself only, it would have been done; but he determined in the out-set to show a piece of farming here that men of less means might imitate. By a singular coincidence, the last piece of waste land was prepared for producing grass the last year of his life. It was his annual custom to ditch and drain a strip of two rods wide, extending across the meadow, and containing three to four acres; clear it of bushes, hassocks and other rubbish; when frozen on the surface cover it one to two inches thick with fine gravel; manure it, and on a late snow in spring, seed it with herds-grass and red-top. It would produce fine crops of hay for some six years, and then, wild stuff coming in, it was plowed, manured, and re-seeded, and so on with all the reclaimed land. Here is a piece of husbandry that ought to be imitated by hundreds of farmers owning such kind of land.

Our friend planted an orchard of fifteen acres, lying upon a southeastern slope; the trees are now in fine bearing condition, and produce all the choice varieties of the apple which are adapted to the soil and climate. Various other kinds of fruit received due attention. A spacious garden supplied a great varity of table luxuries, and the beautiful flowers found space to grow and luxuriate. Home must be made attractive to his family, and therefore the flowers were carefully nurtured.

But Judge Hayes has gone to his rest. For the last two years of his life he had been sensible of the progress of a fatal disease of the heart, and he prepared himself for the will of Providence. In a conversation with him a year ago, he remarked to me that he desired to be sensible of the many blessings conferred upon him; that he had lived to a good age; had been permitted to see a numerous family mostly grown up around him, and entering with respect, ability and promise, upon their several callings in life, and that he now resigned himself to the will of his God. He expired suddenly, but with calmness and dignity, on the 15th day of April last, aged 67 years. His family derive consolation, as well as a lesson of instruction, from a remembrance of the unruffled cheerfulness and calm dignified-resignation exhibited by him, in view of his approaching dissolution.

In penning this brief Sketch, ambitious language, emblazoning the character of our deceased friend, has not seemed to me at all necessary; a plain rehearsal of his deeds, is a high eulogy. Permit me to express the desire that it may be the glory and blessing of our country to possess many men, scattered all over its surface, showing characteristics like those exhibited in the life of the late William A. Hayes. F. Holbrook. *Brattleboro, June* 3, 1851.

County Agricultural Institutes.

Eds. Cultivator—There is an important question now loudly demanding an answer from our farming community, from the political economist, and the man of science—What can be done to promote scientific Agriculture? It seems a trite thing to advocate the importance of reform in our practice, and the utility of science as the means of reform. Such advocacy is daily becoming less needed. Much interest has been excited in the matter. Schools are going into operation. Colleges are equipping with agricultural professors. Even the Legislatures of the states and the General Government have been brought to consider the subject. Much has been said, but very little is yet accomplished. All the existing means of education exercise but an exceedingly trifling comparative effect upon our agriculture. Single farms are models, but no district of several thousand inhabitants can be found uniformly presenting an enlighted system of husbandry.

The State Agricultural Schools that are contemplated, promise much to the farmer, and if they are carried into effect with liberal endowment, and an efficient corps of instructors, they will accomplish many things that no other kind of institution can do so well. They will afford greater facilities for experimental agriculture; for testing the inductions of theory, by trials made under competent direction; for advancing mechanical agriculture,—the processes of farming, and for improving the breeds of live-stock. They ought, also, to provide men and means for striking out into the path of discovery, for increasing as well as diffusing knowledge. But we cannot wait for legislative action. Legislatures have too much inertia, are too unwieldy to lead in improvement; smaller bodies, smaller constituencies, must do a present work. It may not be so grand, but it can be more timely. I beg to propose, somewhat in detail, a plan of easy execution, which, though in some respects inferior to government establishments, nevertheless possesses advantages which the latter can never hope to offer. A plan, I imagine, the most republican and effectual that can be adopted, and one beyond the reach of political rapacity. It possesses the merit of having been tested and pronounced good; at least many of its features are characteristic of the Highland and Agricultural Society of Scotland, and the Royal Agricultural Society of England.

Let each county society, if extensive enough, or several if otherwise, re-organise, adopting Agricultural Education rather than cattle shows and fairs, as their immediate object; not setting aside the latter, but giving them their proper subordinate rank. The society should number several thousand members; two thousand would be sufficient for successful operations. The officers should consist of a president, vice-president, board of directors, six or eight in number, annually elected, and, according to the amount of funds, one or more professors of agricultural science, with whom might be lodged the duties of secretary and treasurer, or these offices might be designated to another person. The society should possess a legal incorporation as a Scientific Institution, which would enable them to import books, apparatus, &c., duty free.

The money requisite for accomplishing the great object, Agricultural Advancement, is to be furnished by an annual assessment on each member, of one or more dollars, as shall be definitely provided for in the constitution. The disposition of the funds to be controlled by the board of directors. It would be highly advantageous to organise such societies immediately, holding the income for several years, in anticipation of such measures as are about to be proposed.

When funds have been accumulated, an Agricultural Institute may be established—a commodious two-story, fire-proof building, adapted to contain rooms for society, hall or lecture room, library, cabinet, offices, and chemical laboratory. I shall notice these departments successively.

The lower story of the building may be mostly occupied with the Society's Hall. It should be large enough to seat several hundred people, and should be fitted up in the best style for a lecture room. It should communicate with the laboratory near the lecture table, be provided also with shelves and cases for apparatus and specimens, and with the furniture necessary to illustrate scientific agriculture. If the Institute is located near an academy or similar educational establishment, it would be proper that provision be made for the annual delivery of a thorough course of lectures on agricultural science, which should be *free to all.*

The room above this would accommodate the library and cabinet. For the library an annual appropriation should be made in addition to a liberal sum devoted at first to the purchase of the existing standard works.

This library should include books belonging to all those departments of science that affect agriculture. The practice of husbandry and gardening in all their branches, including the works of Young, Sinclair, Loudon, Stephens, Johnston, Thaer, Colman, Downing, Thomas, &c. &c. Works illustrating the condition of agriculture in foreign countries—voyages and travels, as the narrative of the U. S. exploring expedition, &c. In chemistry the writings of Berzelius, Gmelin, Liebig, Sprengel, Knapp, Johnston, Norton, &c. The works of Torrey, Gray, Darlington, Eaton, Sprague, Lindley, Hooker, &c., in botany; Lyell, Agassiz, Hitchcock, Mantell, Miller, and the various state geologists, should be represented in their most important productions; Dana, Beck and Alger, in mineralogy; Kollar, Harris, Kirby and Spence, in entomology.

The Natural History of New-York; Transactions of State Agricultural Societies; Journals, including all agricultural periodicals of the United States. Silliman's Journal, Journal of the Royal Agricultural Society of England, Journal of the Highland and Agricultural Society of Scotland, and the more important Chemical and Scientific Journals of Europe, should be found in this Farmer's Library. The cabinet should contain specimens of useful vegetable productions and articles derived therefrom—native and foreign, as seeds, roots, fruits, prepared articles of food, a complete herbarium of native and cultivated plants, special collections of grains, grasses, noxious weeds, &c. Certain animal productions as wool, woolen cloths, skeletons and preparations illustrating animal anatomy and physiology; collections of small animals and insects injurious or useful to the farmer; specimens of soils, marls, clays, peat, plaster, &c.; illustrations of general and special geology and mineralogy; collections of various fertilizers; models of implements, &c., with whatever, of an industrial nature, may be interesting to the farmer.

The Laboratory—the most important of these departments—should consist of several rooms of moderate dimensions, and might very appropriately occupy a high, one-story wing, erected on the end of the main building. It should be fitted up for analytical purposes, with a proper arrangement of furnaces. Shelves, drawers, tables, an unfailing supply of water, and the usual complement of balances, glass, porcelain and platina apparatus, with chemicals, &c.; in short, every convenience for prosecuting chemical research. It should be furnished under the direction of a competent chemist.

The expense of such an establishment would vary with the situation, the size and equipment of the building. It is probable that an expenditure of two thousand dollars, would erect a building, and furnish a laboratory sufficient for the incipient operations of such society. Though much might be advantageously appropriated in furnishing the library and cabinet, they need not at first be put in a state of forwardness. As soon as sufficient means have accumulated, the building should be erected, the lecture room and laboratory furnished, and the other departments filled afterwards by the annual income.

These equipments being provided, it remains to put them into the hands of a competent person, under whose directions they shall work out results beneficial to the society—results commensurate with the expenditure of means and the greatness of the object to be accomplished. Very much depends on the person who is appointed to control the laboratory,—the *chemist* of the society. He is to be the chief means of the society's usefulness. His intellect and labors are to give tone and consideration to the establishment. The society may possess an ample building, a perfect laboratory, a complete library and fine collections: it may furnish abundant funds and exhibit sufficient signs of prosperity, but if it employs a take-it-easy, behind-the-times sort of a man, it might as well dig for coal in New-York as anticipate any good.

A MAN is wanted, one who unites the requisite of the philosopher and the man of business; a man of energy, activity, of profound knowledge in the natural sciences, skilled in the processes of scientific research, of original investigating habits of thought; one who can project and accomplish discoveries; who can increase the means and compass the ends of philosopic inquiry. He should be educated under the most accomplished masters of this and the old world, from those whom the voice of nations has pronounced worthy to judge. He should withal be versed in the practical operations of husbandry, and possess an extensive fund of knowledge in all that relates to the empirical part of agriculture, that he may be able to elucidate and elevate it by science. He should possess the qualities of a good public speaker,—fluency in speech, clearness in explanation, attractiveness in manner; and to crown all his accomplishments, he should ardently love his mission—would it be other than a divine one?—literally "making the desert bud and blossom like the rose."

Could the services of such a man be secured for the society, and he be liberally furnished with the means of investigation, the resulting advantages could be scarcely overrated. His labors would be worth thousands of dollars annually, to the society, in a pecuniary way, while the intellectual waking up that he must necessarily cause, would be attended with blessings which eternity only can estimate. There are certain manufacturing establishments in our country, that pay competent men $2,500 annual salary, and even more, and make money out of them at that. Science is susceptible of as valuable applications to agriculture, as to any other art, and is there any manufacturing company that has so much capital invested, or so great interests at stake, as the farmers of one of our large counties?

But with our full equipment of means, and the secured services of an accomplished man of science, it may be asked, what shall be done? The general statement that science is to be applied to agriculture, is not sufficient. We want something definite. Let us be informed the details of a plan. I may, however, partially satisfy a proper curiosity in pointing out some of the most obvious paths of pursuit that promise important results.

This may be best accomplished by tracing the supposed progress of such an institution. Things must be done by strict system. One of the valuable privileges of the members would be having analyses of their soils, or if natural fertilizers, made at so low a rate as barely to pay the expense. It would be unjust to attempt to furnish analyses without charge, for thus, in one year, the work of a century would present, and confusion and dissatisfaction would follow. The members should consider that there could be no possibility of their receiving less return from the society than the value of their annual subscription, and should wait patiently the judgment of their officers in regard to matters of *general* utility.

Almost the first measure executed, should be the careful and complete survey of the territory covered by the society. This might be carried on before the completion of the laboratory, &c., and should be conducted by the chemist to the society. Its results should be mapped, illustrating the geology of the county, with particular reference to the relations between the transported or disintegrated surface materials—soils; and those *in place*, or rocks. Care should be taken to bring into notice whatever natural fertilizers might be found; particular inquiries should be instituted with regard to the peculiarities of soil, climate, produce, culture, stock, &c. &c. Specimens illustrative of points of interest should be collected for the cabinet, and for laboratory investigation. Advice and suggestions for the guidance of the farmer should be offered, and the chemist should pass from village to village, visiting the farmers at their homes; encouraging them in their pursuits; bringing them to some audience room and giving them evening lectures. He should visit their schools, and urge the introduction of scientific agriculture as an essential branch of study. He should seek out the young who are manifesting eminent intellectual tastes in natural science, and foster and direct their efforts.

He could thus acquire such a knowledge of the natural capabilities of the soil of his district as would aid him in giving advice, and enable him to adopt the best means of benefiting the whole society. He would gain favor among the people, procure many new members to the society, and command for it a degree of confidence and consideration that would prove highly advantageous.

It is obvious that another person, a competent analyst, could be very profitably employed in constant attendance at the laboratory, occupied with analytical investigation. The attention of the professor, (I can think of no other word that is of such general and convenient application,) would be much required, after the completion of the preliminary survey, in lecturing and visiting the various parts of the county, on errands connected with his duties, so that the laboratory operations would not be so rapidly prosecuted as would be desirable, without assistance. This assistance might be furnished by young men of proper ability—such as may everywhere be found—who would be glad to work in the laboratory, receiving instructions in return for their services.

The laboratory should at once be occupied with some leading investigation of general utility. Such as analyses of soils and rocks from the various geological formations; researches for improving the mainly pursued branches of husbandry, as the dairy, or the staple crops, &c. Attention should be directed successively, as fast as possible, to the elucidation of the more immediately interesting points of practice; the action of fertilizers; the best methods of feeding, &c. Subjects for investigation would rapidly multiply. Peculiarities of soil, crop, or manure, would speedily be presented for examination, and all who clearly understand the principles of philosophical research, need not be told how satisfactory and profitable such inquiries must of necessity be. The suggestions of laboratory investigation might be practically exemplified upon the farms of liberal and enterprising members. Plans for experimental inquiry might be distributed, and their successful prosecution be rewarded with premiums.

For the cabinet, collections should be made by the Professor or by competent persons, all subject to his approval. The offer of premiums for special suites of local specimens; for example the native grasses, the wood, flower and fruit of the forest trees. Insects injurious to grains, in all their various stages, &c. &c., would both increase the value of the cabinet, and encourage scientific studies among the young.

In course of time it might become expedient to publish an annual volume of transactions, thus rendering the society's contributions to agriculture permanent and generally accessible.

The annual meeting of such a society would possess unusual interest. The cattle show and fair would necessarily far exceed in attraction those conducted in the usual manner. The dissemination of scientific truth, and the impulse it must give its recipients would crowd these exhibitions with things worthy to be seen. A new standard of agricultural excellence must spring up, and the advance of farming would carry along the farmers. Besides it would be generally understood that in addition to seeing more than the usual sights, many things might be *learned*, thus greatly improving upon the present condition of county fairs. Money premiums, I venture to suggest, should be very rarely awarded. It does not argue very far sighted philanthropy to return to the members of a society the identical commodity that has been collected from them, and of which there is good reason to suppose there is enough left among them. The premiums should consist of something valuable which the farmer would not ordinarily be liable to procure. Books, instruments, new varieties of seed, scions and cuttings of fruit trees, ornamental shrubs, house plants, the services of the society's laboratory, &c. would be most proper. Costly medals are better adapted to tickle vanity than to subserve any useful purpose. In all cases a certificate of award should accompany premiums.

I have thus sketched roughly the outlines of an ideal picture, which I hope, for the sake of American agriculture, may soon find many realizations, each wrought by some master-hand and finished in all its details. I could enlarge upon some points of this plan and introduce others. I might furnish a draft of the building &c. but want of space forbids. I conclude by asking the opinions of practical and scientific men concerning the feasibility of the scheme. SAML. W. JOHNSON, *Dep. of Philosophy and the Arts, Yale College, Ct.*

PROTECTION AGAINST THE CURCULIO. We have heard of some instances where the fumigation of trees with brimstone, seemed to protect plums from this insect. Mr. J. R. HOWARD informs us that Mr. C. H. HALL, of Bluerock, Ohio, has for several years pursued the following with advantage: "He melts sulphur and dips in it woolen rags, which are tied to the end of a pole, and at twilight he fumigates the trees. This he does twice a week, and it is so offensive that the insects leave the orchard. The practice has always been successful."

Breeding Horses.

An article has lately been published in the *Veterinarian*, translated from a French journal, on "Racing considered as a Means of improving the Breeds of Horses for general use and for Military Service." The subject is treated in an able manner, showing that the writer is not only thoroughly acquainted with the principles of physiology, but with practical breeding and the results which have attended the crossing of different stocks. His first position is:

> If racing has shown itself to be the best means of improving our breeds of light or speedy horses, experience has also shown that, as practiced in England, it has operated to a greater extent than might be imagined in destroying the breeds of saddle horses, in times past so much in request for commercial and military purposes.

In reference to this point, the writer discusses at some length the subject of racing,—its ultimate object and the means of attaining it. He notices the fact that the English races were formerly of twice or thrice the length they now are, and that the weights carried were twice as great. But at the present time, the object of racing is "gambling" in the most expeditious manner. He says:

> To the English it matters little what the length of the race is, or the weight to be carried! With them gambling is the object, the bets they make amounting to enormous sums, enriching one and ruining another. This is the kind of spectacle suited to British national taste; and, were it desired, they would speedily invent others of the kind, with other animals, and another order of contests; for they still have their pugilistic encounters, their cock-fights, and their contests between bull-dogs, whose jaws they have singularly brought to a perfection of strength for this express purpose.

He remarks in regard to the common error, that the various breeds of English horses owe their perfection to racing, or to blood derived from racing stock, that each breed has its "peculiar type, which is, or *ought to be* carefully preserved, so as not to be destroyed by injudicious crossing." He thinks this is the plan generally pursued in England. Upon this the editor of the *Veterinarian* remarks—

> There can be no doubt but that the English breeder has a principle or object in view when he sends his mares to particular horses. But, save in the case of the race-horse, which the stud-books preserve genuine, and the cart-horse, whose peculiar character preserves him, a great admixture of breeds is known to take place, which has proved, every horseman admits, of great injury as regards some of our most valued and serviceable descriptions of horses, to wit, weight-carrying hunters, and hackneys, and cavalry horses. The good old sort of those breeds is hardly to be found; while their places are filled either by over-bred horses deficient in power, or by mongrels deficient in blood.

In considering the inquiry whether the English thorough-bred horse is calculated to improve the stocks used for business purposes, and especially such as are required for cavalry, the French writer describes, first, what ought to be the nature and characteristics of the thorough-bred, the manner he is reared, &c.

> Physiology, like experience, demonstrates, in a general sense, that, for the purpose of making the greatest exertions of which he is capable in the shortest possible time, a horse must unite in his own body two indispensible requisites, without which it is impossible for him to become a turf horse. He must, in the first place, possess a nervous, irritable, and highly ardent temperament; and in the second, the construction of his locomotive apparatus should be such, in its mechanical relations, as suits best the race he is intended to run, even though this be at the expense of the strength or the resistance of the apparatus; qualities which are not, in point of fact, required for the speed that is demanded.
>
> Convinced of this, the English, so skilled in the art of modifying the nature and conformation of animals according to the purposes for which they are designated, made choice in the first instance, of Oriental blood, as offering the material the best adapted for the model they were desirous of forming. Upon this admirable canvass they subsequently spread their pure indigenous blood, such as it was, taking advantage of every condition conducive to the production of the animal they had in view.
>
> But to change the nature of Oriental blood, to instil into it those generous qualities which distinguish the pure English thorough-bred, what acute observation, what study, what perseverance, must have been employed in those artificial proceedings which ought to take the lead in operations so delicate! It not only became requisite to preserve certain qualities of the pure primitive blood, in a climate little favorable to it, but at the same time it was necessary to alter its nature, in order to render it, in certain respects, superior to its original condition. To accomplish this, recourse was had to crossing and paring, always with relation to speed, to which every other quality became sacrificed.
>
> The produce called for situations of suitable temperature, assisted by woolen clothing, soft flannel, cut to fit every part of the body. Their stables are kept at a temperature of from 60° to 70° Fahr.; are provided with well-distributed apertures; are well combined, with convenient appendages; in fact, provided with every appurtenance required for the accommodation and comfort of horses of every age. Add to this, aliment of the choicest quality, a regimen well seasoned and regulated, exercise under the direction of men kept for superintendence, diligent cleaning and hard rubbing; in fact, a thousand acts of care, dictated by observation practiced every hour in the day, have all equally contributed to the creation and conservation of the English thorough-bred horse.
>
> * * * *
>
> The production of the cavalry horse must differ considerably from that of the race horse, in being more easy, more simple, and especially more economical. A racer must be of a nervous temperament, highly irritable and vigorous, and should be able to call forth all his power and impetuosity in the short space of time in which he is engaged in the race, supposing even that he is fit for nothing after the trial is over. The race is his only sphere; he is not required to serve any other purpose. No matter how useless or helpless he is in other respects, so long as he wins his race he is highly prized, but no longer.

The writer then adduces the results of crossing with thorough-bred horses in many instances, and for many years, in France, in support of the principles he has laid down, and submits the conclusions at which he has arrived. He considers it a settled point that the French cavalry horses have not been improved by the infusion of English blood.

Mr. Percivall, editor of the *Veterinarian*, appends some remarks on the article above noticed, which are eminently worthy of attention by all breeders of horses. In relation to the first position of the French author, Mr. P. observes—

> This is a remark applicable out of the country in which it was made. We are afraid our own land has rendered itself amenable to the reflection. We no longer see in it, or at least nothing like in the same ratio, horses of that useful character for general purposes, which it once could abundantly boast of. On the turf, our King's plate horses, have given place to high-flyers. The hunting field is beset with the same stamp of horse, in lieu of the old, weight-carrying, enduring hunter; our heavy dragoons are under-mounted; our artillery weakly hors-

ed to what they were wont to be; and all because we, in our eagerness to gain possession of blood horses, have lost sight of the really useful and seviceable breed.

Such being, beyond contradiction, the condition of our breeds of horses of the present day, it becomes a duty imperative on us, as it has seemed to be on the French writer, to inquire into the causes of these sad fallings-off in our equine stock; for 'fallings-off,' and grevious ones, they most unquestionably are. In the translated article, from which we have been quoting, it is stated, that the introduction of English blood for the purpose of 'regenerating' their 'old stock' has worked unfavorable changes among the horses in France.

That racing has, up at least to a certain point, been productive of the happiest effects in improving most of the breeds of horses in our own country, is too manifest to admit of a question. To racing, in fact, for our blood stock we owe everything. Our racers are unrivalled. Arabia herself, although their acknowledged parent, can no longer send competitors that can run run with them for the prize of speed and bottom. But, in our fondness for, and eagerness to excel in, so beautiful a breed of horses as the English racer is all over the world acknowledged to be, it becomes a question whether we have not outrun our object, or, in other words, carried what we have all along viewed as 'perfections' rather too far?—sought it at the cost of utility and serviceability? Have we not at the present time more blood-horses in the country than we have ever been known to possess at any former period? And are not the really serviceable hackney, hunter, troop-horse, and harness-horse, in proportion on the decrease? These are vital questions—questions to which we would fain give other answers than such as observation and experiment and truth dictate to us. As we have already hinted, we believe the main cause of this decrease in our more useful classes of horses to be owing to an over-fondness on the part of our breeders for *blood*, to the sacrifice or exclusion of that property which is so necessary to be combined with it, viz. *bone.*

To the preceding observation, we add the following from a late number of the *North British Agriculturist*, in reference to the difference in the points of the Arabian and the English race-horse:

The English race horse differs in some points from his Arabian ancestors—his size has increased from 14 hands 2 inches to 15 hands 3 inches or 16 hands in height, while in his conformation he has become rather narrower over the loins, and longer in the forehand, but he has partially lost the fully developed joints with the sinewy tendons which is one of the characteristics of the pure Arab—he has also lost to a degree the fine intelligent eye and playful docility of the Arab. Many causes have been in operation to produce this change. The alteration of form has been probably effected, with the view of securing greater speed though such a form is less perfect for general purposes. The form of the Arab horse shows a perfection in its proportions which has been hitherto overlooked by physiologists. In numerous measurements which we have made, the superiority of the Arab over the English form was to our mind quite conclusive.

Buying and Selling.—A cotemporary gives the following fine advice on this subject: "If you expect to prosper, never try to be 'sharp for a trade.' Always sell at a fair price, when offered, if you wish to sell at all—never wait for a high one. Sell for cash or sure pay—and not at a high price on credit, at the risk of losing a debt. Always pay a fair price for what you really need—no farmer will prosper in making it an object to purchase below it." To which we may add, that we knew two neighbors, one of whom went for fair prices, the other for shaving. The honest man dealt freely with whom he chose; the shaver was avoided by all;—the one could always hire the best and most trusty hands; the other only the poorest, who could find no other places; the one had many open hearted friends; the other more secret enemies. Which, do you think, passed the most comfortable life?

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

The Best Cherries.

The *eight* standard cherries recommended by the American Congress of Fruit Growers, were Mayduke, Black Tartarian, Black Eagle, Graffion (or Bigarreau,) Knight's Early Black, Downer's Late, Elton and Downton. Successive years of trial must of course vary or modify this list. There are some new sorts which promise great excellence, and among them, none more than Dr. Kirtland's new seedling, known as *No.* 10. From two years fruiting, we are inclined to place it at the head of the list of cherries for mild delicious flavor. while its early maturity, and large size, and the fine growth of the tree, are great additions to its value. The *Early Purple Guigne*, after many years trial, stands entirely alone as the best very early variety, ripening with the May Bigarreau, to which it is much superior in size and greatly in flavor. *The Doctor*, another of Kirtland's seedlings, is its best successor. This is rather earlier than the Early White Heart, is usually somewhat larger, and decidedly better in quality..

Knight's Early Black, which is larger than Black Eagle and equally good, often proves a scant bearer. The *Graffion*, (known often as "Yellow Spanish,") is also rendered less valuable by its deficient productiveness in many localities. Like the Mayduke, it appears to be peculiarly liable to the attacks of the curculio. During unfavorable seasons, it appears to be unusually subject to decay on the tree. The Elton, although not first in delicacy of flavor, still stands eminent for its fine quality, fine appearance, and great productiveness. In the last named quality it exceeds the Downton, but falls below it in quality. Downer's Late still maintains its high stand for hardiness or unusual freedom from most of the disasters to which cherries are incident, its excellent flavor and prolific bearing. Its only defect is its moderate size.

After all, it will be hard to find any new cherries superior to those old established sorts, the Black Tartarian and Mayduke;—the former for its size, bearing qualities, and agreeable flavor to most persons; and the latter for the unequalled richness of its juice when fully ripened.

For a succession of reliable, productive, and valuable sorts, we do not know that we could at present give a better list than the following:—Early Purple Guigne, Doctor, Kirtland's No. 10, Rockport Bigarreau, Black Tartarian, Elton, Downer's Late, Belle Magnifique. But as some of these may fail in unpropitious seasons, none being wholly secure from accident or disease, a larger selection should be planted where admissible.

Long-keeping Apples.

A great deal of inquiry is made for the best long-keeping varieties of the apple; and the subject is worthy of much inquiry. It is easy enough to have a good supply through winter—a period when the requisite degree of coolness is so easily obtained for the preservation both of the fruit and its flavor. Hence the case with which even the later autumn apples, may be kept during winter in cool cellars. But on the approach of warm weather, those that escape decay, soon have their flavor and freshness dissipated in the air. A vacancy of many weeks then occurs before the ripening of early fruits, which can be supplied only by long-keepers.

A fruit must possess two distinct qualities for this purpose,—namely, endurance from decay, and retention of flavor. For this purpose we shall probably not soon find any equal to the Newtown Pippin—and next to this are the English and Roxbury Russets. The Northern Spy is a fine keeper, and when preserved in a cool cellar retains well its freshness, even into the first of summer; but later in the season, it loses its flavor while yet retaining its juicy flesh and showy appearance. The *Kingsley Apple*, a new variety, introduced by Dr. Long of Rochester, a small fruit of unusual delicacy of texture, will keep a long time, but it does not usually retain its best flavor long after the approach of warm weather.

For conveyance to distant markets, the Northern Spy does not seem so well fitted as some others, being more liable to injury. This fine apple, in truth, not only needs more care in cultivation than most others, but when gathered, packed and shipped, should be handled with the same care that is given to a fine piece of crockery or a looking-glass.

One of the best long-keeping sweet apples is the *Ladies' Sweet.* We know of no sort which presents so beautiful an appearance by its brilliant coloring late in spring—although in richness of flavor it does not reach the highest point. A drawback is the slow growth of the tree. It is a profuse bearer.

Fruit Drying Apparatus.

The best means of preserving the *surplus* of the vast fruit crops which will in a few years be raised in all parts of the country, cannot fail to become a matter of general interest. We copy from the last number of the Michigan Farmer, the following description of a *fruit-drying house*, which appears to be a good one, but we would suggest the use of fine netting made of hard-twisted twine, instead of lath screens; and a good ventilator at the top of the building for the free egress of the heated air as it becomes continually loaded with the moisture of the fruit. The free circulation of the air, so essential to rapid drying, would doubtless be facilitated by allowing a space between the screens and the outer wall.

Having a large orchard, consisting of 500 apple trees and 150 peach trees, which have just commenced bearing, I found it necessary to adopt some method to secure my fruit, and drying presented itself as the safest and most profitable way. I built an upright of 9 by 11, 8 feet in height, on a good stone foundation, placing a common 12 light window in one end, and in the other, fronting the house, a door. In the end where the window is I have a chimney. The walls are 8 inches in thickness, arched and plastered inside. The inside work consists of screens, 25 in number, 2 feet 3 inches wide, 12 on each side and one overhead. These are supported by 2 inch square posts in each corner, in which mortices $\frac{3}{4}$ by $1\frac{1}{4}$ inch are made to receive a railing to support the screens. The rails are received at the other end in a gane mortice, and may be taken out at pleasure.

The screens are made of wood in the following manner: 3 strips of $\frac{3}{4}$ by $1\frac{1}{4}$ to fit the inside, (the one in the middle rendering it stiff.) Across these are nailed small slats, near enough together to retain fruit when dry, thus making a light, stout and durable screen. These are sufficiently large to hold from 1 to $1\frac{1}{2}$ bushels each, which enables me to put up 30 or 35 bushels at a filling. By means of a large box stove these may be thoroughly dried in 36 hours, and then refilled. The fruit dried in this manner is of superior quality, being much better in flavor, and presenting a cleaner and neater appearance than when dried in the ordinary way.

Horticultural Memoranda.

Protectimg tender Roses.—After trying various modes of sheltering tender roses during winter, including the use of moss, inverted turf, straw, tan-bark covered with boards, &c., none appears to be equal to a covering with the branches of evergreens. Plants but slightly tender need very little shielding in this way; while those the most susceptible of injury should be encased several inches thick. One eminent advantage which this treatment possesses, is the entire freedom from *decay* in the bark and stems of the shielded plants, which sometimes results from other modes. Pine, hemlock, white cedar, &c., may be used for this purpose. Where evergreen hedges or screens have been planted, the shearings or clippings may be employed with great convenience.

Bleeding of Grape-vines.—When the grape is pruned in autumn, in winter, or very early in spring, the sap-vessels will close, and no flow from the wound will follow. But where this needful work has been omitted at the right time, those who have an aversion to prune in consequence of the prodigious flow of the sap which takes place as the buds expand, may save themselves all trouble from this cause by waiting some days till the leaves are as large as a currant leaf. If the pruning is then performed no bleeding will take place. Pruned at this season, we have found young hardy vines to do as well as at any other time. The injury resulting from the flow of sap, is however, overrated; and by some experienced cultivators it is believed to produce no injury whatever.

Remedy for Plum knots.—The old-fashioned remedy, "*to cut and keep cutting*," still proves infallible. Unfortunately, is is very rarely applied, even by those who think they have given it a fair trial. Perhaps the disease has been permitted to advance for two or three months before it has even excited attention. The knife is then made use of and a single operation is regarded enough. No wonder that a remedy, applied in such a burlesque manner, should be considered inefficient. We observe that the application of copperas-water to the wounds made by the excision of the knots on the larger branches, is spoken of highly by different cultivators.

The Cherry Slug.—This larva, which eats the pulpy part of the leaf of the cherry, and sometimes of other fruit trees, is most effectually routed by a sprinkling of *lime.* Air-slacked lime, applied in the dew of the morning, usually accomplishes the desired purpose. Dry, water-slacked lime, taken fresh, is still better, being more caustic.

Pear Blight.—The cause of this disease, like the potato rot, will probably for a long time remain in perfect obscurity; but the remedy where an attack has actually commenced, is plain. Nothing can restore a *diseased* limb, the poison from which often spreads to other parts, and hence the immediate lopping of all such limbs must be resorted to. Discovering some weeks since that a considerable number of pear trees were just becoming affected, the knife and saw were promptly and freely applied, even at some distance below all appearance of blackened bark, although it became necessary to destroy some very fine newly set fruit of rare varieties. This checked at once all progress, and no indications have since appeared. A neighbor, who hesitated a few days in thus "mutilating" some of his favorites, was ultimately compelled to lose nearly the whole of them. The portions cut off were buried in another place to prevent the spread of the infection. In malignant cases, this remedy may prove insufficient, or it may have to be repeated for many successive days. But how much better it is that a tree should fall before the knife, than to perish wholly by blight and spread the poison through the orchard.

◆

The Curculio---Causes of Failure.

It is more than 20 years since I caught this troublesome insect on sheets, and secured my crops of plums, nectarines, and apricots; and whenever the business has been thoroughly done, I have never been disappointed. An average of about 1,500 curculios, caught in the first ten days of summer, though sometimes rather earlier, have proved a sufficient reduction of the tribe.

This method of protecting stone fruit, I first published in the New-York Farmer; and afterwards I several times introduced the subject into the old Genesee Farmer. Of late, however, I have seen reports of its inefficacy; and as the word "shaking" has been generally used, perhaps the following extract from the latter journal, which I wrote in 1832, (vol. 2, p. 185–6,) may throw some light on the difficulty.

The first statement was dated 6th mo. 7, 1832, and describes the imperfect mode as commonly practiced:—

"On the first day of this month, I observed some curculios on the plum trees in my fruit garden; and not knowing how numerous they might prove, or how much danger was to be apprehended from them, we spread the sheets which we keep exclusively for this purpose, and by shaking, we caught from about fifty trees, more than 30 of those insects. Since that time, on different days, we have made similar trials; but we soon became satisfied that only a few were left; and unless others migrate hither, which the movements of the hogs will be likely to prevent, I think their depredations will be very limited this season."

Three days afterwards I furnished the following statement, containing a very important improvement on the mode before described:—

"Not three days ago, I saw that many of the plums were punctured, and began to suspect that *shaking* the trees was not sufficient. Under a tree in a remote part of the fruit garden, having spread the sheets, I made the following experiment: On *shaking* it well, I caught FIVE curculios; on *jarring* with my hand, I caught TWELVE more; and on *striking* the tree with a stone, EIGHT more dropped on the sheets. I was now convinced that I had been in an error; and calling in the necessary assistance, and using *a hammer to jar the tree violently*, we caught in less than one hour more than 260 of these insects."

Now I should think that these statements would explain all the failures that have occurred in this business. At that time my trees were not large, but they have long since become so; and to attempt to shake them now, or to jar them with the hand, would be out of the question. We only strike them with an axe, and the blows may be heard to a considerable distance. To muffle the pounder to prevent its bruising the bark, would be preposterous in the extreme; for the stroke to be effectual, must be a sharp and sudden jar.*

Some of the success of these operations however depends on the temperature of the weather. Thus, many of these insects fly off in the warmer part of the day, and in the coolest mornings we catch them in the greatest numbers. DAVID THOMAS. *Greatfield, 6th mo.*, 1851.

◆

The Curl in Peach Trees.

It is a matter of doubt with me, whether the *curl* may with propriety be considered a disease. The appearance has become so general that I am almost induced to believe it is so, but *some* circumstances which have fallen under my observation, lead me to a different conclusion. Last season *most* of our trees suffered very much, but slow growing varieties more than others; Tillotson, Noblesse, and a few others of similar growth, presented a *stripped* appearance, and ripened little or no fruit. A very fine tree of Noblesse, standing close by the kitchen door, looked as though it might never leaf out again. Late in the autumn I told the *good lady* having charge of that department, to permit that tree to be the recipient of all her out of door favors, in the form of *mop* water, &c., which is usually the boiling suds from white clothes, in which the new washing preparation, composed of sal soda and lime, had been used. It now is covered with deep green foliage, and loaded with fine fruit. I also observed, that last season a tree of Bergen's Yellow was not at all affected, around which the sweepings of a new cellar, lime, mortar, rubbish and shavings, and all, were heaped up, a foot to eighteen inches high. This year it is *entirely* exempt from the curl. Several other instances of the same kind might be given, showing that good cultivation certainly proves effective. The shortening-in system, when thoroughly performed, has *frequently* been quite successful—and *always* beneficial. With us, the early Barnard has been signally obnoxious to the curl; this has also been the case in several *nurseries* of young trees, containing many of this variety. E. S. *Hillside, Macedon, Wayne Co., N. Y., 7th mo. 1st.* 1851.

◆

The Large Flowered Bignonia.

The profusion and variety which distinguish the display of flowering plants during the early part of the season, disappear usually by the middle of summer, and a destitution is often felt for the rest of the year. For this reason those which make their appearance late in summer and early in autumn become doubly desirable. Among these are the large flowering Bignonia, (BIGNONIA *grandiflora*, TECHOMA *of Juss.*,) which for richness and magnificence is scarcely surpassed at any time of the year. It is a climbing shrub, like the old trumpet flower, (*Bignonia radicans*,) and may be trained in the form of a pillar, or to the face of a wall. As far north as 43°, it is slightly tender, and needs a slight protection with evergreen boughs in winter. If left exposed, the tips of the shoots will be destroyed.

---

* The short stump of a sawed limb, to receive the blows, as pointed out on former occasions, has been found best. ED.

The foliage much resembles that of the common trumpet flower, but is of a much darker green; the flowers measure from three to three and a half inches across the corol, and single racemes are often a foot long. This large size, added to their rich orange color, renders them eminently ornamental and showy. The plant continues to bloom through the latter part of summer and through several of the earlier weeks of autumn.

◆

Notes on Strawberries.

The garden of R. G. Pardee, of Palmyra, N. Y., presented during the strawberry season a display that we have seldom seen equalled. Specimens of Hovey's Seedling weighed half an ounce, and many of the berries of Burr's New Pine were scarcely inferior in size, measuring from four to four and a half inches in circumference. Like nearly all other cultivators, he regards the latter as the best sort decidedly, for home use. Very fine specimens of Black Prince were also grown, but their great size and succulence appeared to be quite at the expense of their flavor. To test the often repeated assertion, that the common wild strawberry, is not excelled by cultivated sorts in quality, a few plants were given a fair trial; but when eaten side by side, they were found inferior to nearly every other sort in the garden, which contained some thirty or forty in all.

The late Strawberry Exhibition of the Genesee-Valley Horticultural Society at Rochester, presented as usual a rich display of specimens. Among them were several of Ellwanger & Barry's new Seedlings, which have now been subject to some years of trial. The most showy is the *Genesee*, of large size, good flavor, and with an unusually brilliant scarlet color. *Monroe Seedling*, is another of decidedly fine appearance. Another, which they as yet call No. 1, possesses the finest flavor of any of their new sorts, and which is not dissimilar to that of Burr's New Pine. These sorts all grow freely and bear well on their grounds, which possess great fertility; their promise of high value certainly entitles them to a fair trial elsewhere.

◆

Late Apples at the West.

Dr. Warder's Review informs us that at the exhibition of the Cincinnati Horticultural Society, for the display of roses, cherries and strawberries, there were specimens of the Newtown Pippin and Rawle's Jannet, "which were remarkably well preserved and retained a good flavor." These appear to be the two best keeping apples of that region. The warm sun and fertile soil of that part of Ohio, seem admirably adapted to the successful growth of the Newtown Pippin, those we have examined from that region being of finer appearance and of a much better and more matured flavor than any grown in central or western New-York.

Blackhall's Steamed Bone Manure.

Analytical Laboratory, Yale College,
New-Haven, Conn., June 30, 1851.

Editors Cultivator—I have written so much on this single topic of bones, that some of your readers may think it worn threadbare. But while I see the great apathy which still prevails among farmers as to their use, when I consider the enormous waste of them which still occurs in almost every district of our country, I feel that I have not said and cannot say too much about them.

It must be acknowledged that there are practical difficulties of some consequence, in the employment of bones as a manure on ordinary farms. If applied whole the quantity required to produce much effect is very great, not less than from 50 to 80 bushels per acre. Crushing or cracking them by hand is a very slow and imperfect process, which soon leads to discouragement if the collection be large. Mills for grinding bones are as yet few, and bone dust as an article of trade is chiefly confined to the large towns, and must be transported often to a great distance. The easiest way to bring bones into a proper shape for application to the land, and at the same time the most effective and economical method is to dissolve them in sulphuric acid. This is a simple process enough, but I know from frequent experience that it appears very formidable to the farmer who is not accustomed to novelties. He is afraid of the strong acid; perhaps has some difficulty in finding it at all in his neighborhood, and is often finally discouraged into letting the whole matter stop by one or two failures in his first attempts. No description of a process can avoid every possible source of error, and unpracticed manipulators are pretty sure to make some mistakes, when they meddle with chemicals for the first time. Those who have more faith and perseverance do not give up at the first ill success, but try again, and always reap a reward for their good courage. Such however are comparatively few, and the number of those who shrink from any effort whatever, is greatest of all.

In view of the dread which farmers have of this method, I take up for the subject of the present letter, the process of dissolving bones by steaming, a process which has lately excited much attention in Great Britain. This process has already been mentioned in your columns on one or two occasions, but I have thought that a more extended notice might possess a considerable degree of interest. I have at various times within the past year or two, received letters from Scotch and English friends speaking highly of steamed bones, and the subject has also been fully discussed by the agricultural papers.

In the Farmer's Guide, just published by the Messrs. Scott of New-York, a full description is given of the process, with plates of Mr. Blackhall's apparatus. I will here mention the general principles of his plan. Any old boiler of small size will answer for this purpose. It is fitted so that a considerable charge of bones may be placed on a grating in its upper part, and there be exposed to the full action of the steam. The lower part of the boiler is filled with water, and then all that is needed is a fire, and a safety valve to make sure that the pressure of steam does not become so great as to endanger the safety of the boiler.

If the charge is introduced in the morning, steam is kept up through the day, and the boiler left to cool off at night. On the succeeding morning the bones are taken out, and are found to be so altered and softened as to be readily crushed to a fine paste or powder. All coherence is destroyed, and the result of the process is thus a mass of extremely minute particles.

This is the same object which is attained by grinding in a bone mill, or by dissolving with sulphuric acid. In the latter case there are also certain highly important chemical changes, but still the state of minute division to which the bone is reduced, is one of the chief points gained. This division into small particles is of advantage, for the reason that such particles are more readily dissolved and decomposed in the soil, and therefore more immediately and fully available to the plant. This consideration of quick action, is highly important in the application of manures. A small quantity of a soluble or finely divided fertilizer will produce a better effect than many times the amount of some substance equally rich in composition, but imperfectly soluble, or in large hard lumps.

For this reason steamed bones have been found highly advantageous as a special manure, a comparatively small quantity answering the desired purpose in hastening and augmenting the growth of the crop. Eight or ten bushels per acre, have been found to produce a most remarkable effect, far more than equivalent to a heavy dressing with the ordinary farm-yard manures. In fact it is scarcely necessary that I should enlarge upon their properties in this respect, for even the most careless reader on agricultural subjects, must by this time have learned, that any form of soluble phosphates constitutes an exceedingly concentrated and powerful manure for all of our cultivated crops. Phosphates are a necessary condition of life and luxuriance to all or nearly all valuable plants, and it is obviously important to furnish them in such a form as shall be mostly readily available.

Several important papers relative to steamed bones, have been lately published in the Journal of the Chemico-Agricultural Society of Ulster, Ireland. Some of these, and perhaps the most interesting, are by Mr. D. T. Jones, a gentleman who was studying in the laboratory of Prof. Johnston at Edingburgh, when I was also a student there. He is now applying his chemical knowledge to the improvement of a large estate in the west of Ireland.

He has made some experiments on the actual cost of the process, counting in the price of the bones, of the fuel, of labor, &c. His boiler held 7 cwt., and the results were taken from five successive charges. Bone dust cost £6 12s. or about $30 per ton, while a ton of raw bones cost but £3 or about $15. The additional expense of steaming, was a little less than $1. For a trifle more than half then, he obtained by the steaming process a ton of bones far more finely divided, and consequently more immediately beneficial, than bone dust. Other writers give almost equally favorable results.

The advantage of economy then, seems clearly to rest with this process. The question arises, however, is there any loss of valuable substance. With a view to settling this question, Mr. Jones has lately made some direct experiments. Dr. Voelcker, of Cirencester Agricultural College, analysed some specimens of the steamed bones as prepared by Mr. Jones, for the express purpose of comparing them with bone dust. The following analyses give his results:

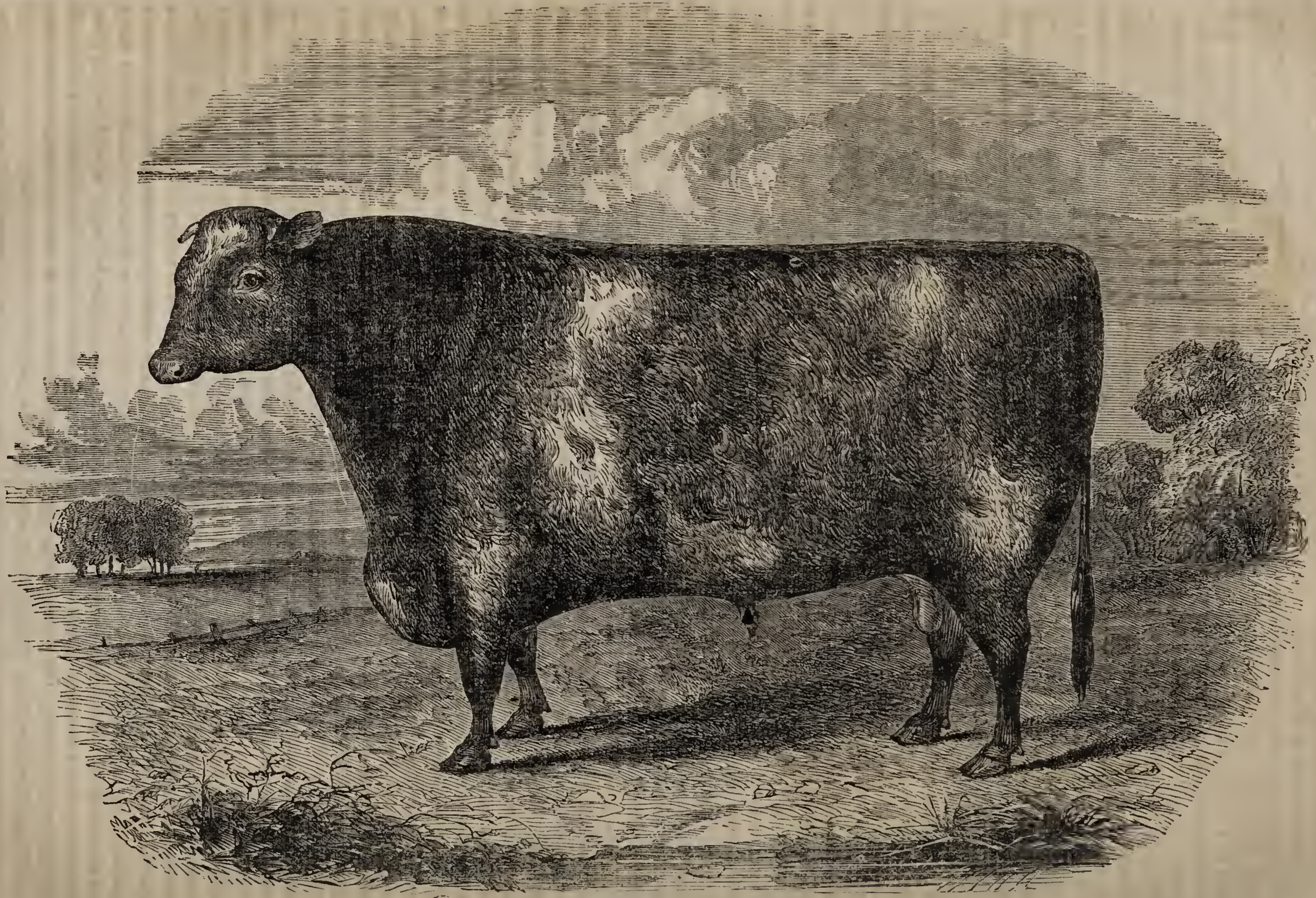
	Steamed Bones.	Bone Dust.
Organic matter,	28.68	35.25
Phosphate of Lime,	57.73	54.00
Carbonates and Alkalies,	4.29	1.49
Sand,	9.30	9.26

A comparison of these two analyses shows, that during the steaming a loss of organic matter has taken place, amounting to nearly eight per cent. This is the gelatine of the bone, dissolved out by the steam. This loss is however only apparent, as a moment's reflection will show, that this dissolved gelatine will be found in the water that occupies the lower part of the boiler. After one or two charges therefore, this water should be drawn off, diluted with fresh water, and applied as a top-dressing upon meadows or young grain. The gelatine being a highly nitrogenous, and therefore valuable manure, produces an excellent effect when applied in this way. If not convenient to use this solution in a liquid form, it may be mixed with peat, ashes, vegetable mould, &c., or added to a compost heap.

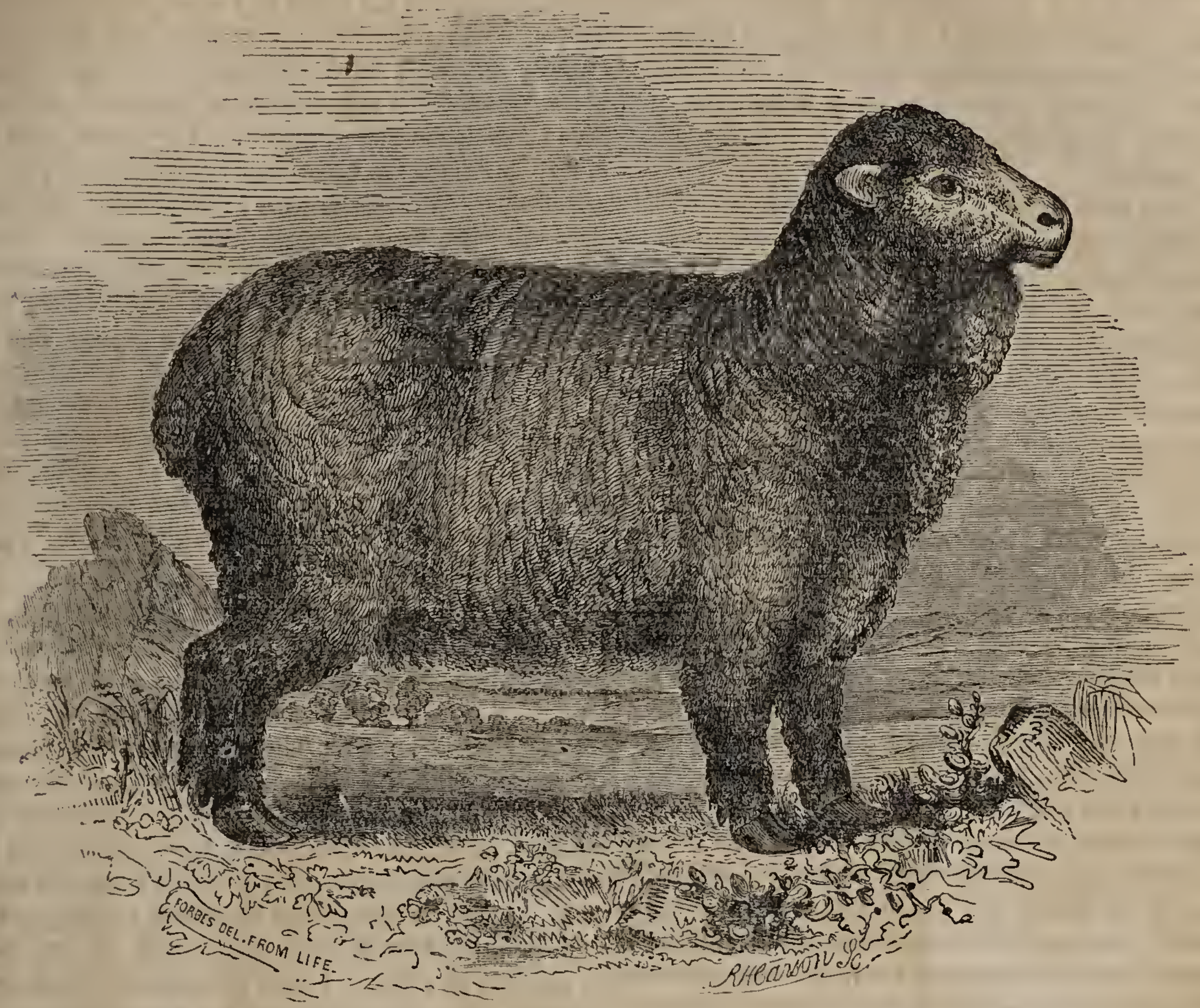
We thus see that every portion of the bone is preserved, and made useful as a fertilizer, and that too by a cheap process. Some farmer in each neighborhood might set up such an apparatus at a trifling expense, and supply the whole adjoining country at reasonable rates. Or an association might do the same thing, each steaming his own collection of bones in turn. By managing in this way the expense to each individual would be quite small, and all the bones got together in the course of a season could soon be brought into a state fit for use. They are now so commonly disregarded and wasted, that in most situations a farmer might possess himself of large quantities for a merely nominal sum.

The crushed mass of steamed bones, if left to itself soon heats and ferments, causing a loss of nitrogen in the form of ammonia. To prevent this in cases where the bones are not to be used at once, it is recommended to add a little salt; this arrests decomposition, and is itself of some value as a manure. It also serves in many cases as a check to injurious insects, by destroying their grubs. Where it is desirable to add a highly ammoniacal and energetically acting manure, it is only necessary to withhold the salt, and allow fermentation to go on till ammonia begins to be largely given off. The heap should then be mixed with gypsum, peat ashes, or charcoal dust. This applied to the soil will act as quickly and powerfully as guano, with the advantage of a far less price. From six to ten cwt. of these bones would produce more effect upon most of our crops, than a very great application of farm-yard manure, and being so portable might often be employed with a very great saving of expense. I think that the addition of 8 or 10 lbs. of sulphuric acid to each 100 lbs. of this manure, would be a still farther improvement.

This method seems to me remarkably feasible, simple, effective, and cheap, and I hope that this notice may induce some of our more enterprising farmers to try it, and to make their success public. The apparatus need cost but little at first, and the same boiler might be employed to steam food for stock in winter. Yours truly, John P. Norton.



SHORT-HORN BULL EARL OF SEAHAM.—(*For Pedigree, &c., see p.* 278.)


FORBES DEL. FROM LIFE.
RHearson Sc.

A SILESIAN MERINO EWE.

Notes of a Tour in Europe.

The above figure is a portrait of a Merino ewe, procured in Silesia, by Wm. R. Sanford, Esq., of Orwell, Vt. It is one of the lot noticed in our current volume, p. 218. We have received from Mr. S. the following notes in relation to his tour through Europe for the purpose of examining and purchasing sheep. In the present chapter we have the results of his observations in regard to France and Spain; in a future number he will furnish those relative to the various German states through which he passed.

Editors Cultivator—In compliance with your request, I will endeavor to give a short account of a tour in Europe. I sailed from New-York, Jan. 24, in the packet ship Splendid, for Havre, France. We had three days of pretty rough weather; the rest of the time quite fine. We had a passage of 24 days. I was very seasick about half the way, which was anything but pleasant, I assure you. Mr. Greely has pictured it very fairly in his description of crossing. Havre I found to be a very busy place, as of course it must be, it being the great shipping port of France. One of the first things I noticed, was the horses that they work in their carts; they were very large and strong built, and carry enormous loads with them. I think they are preferable to any I ever saw for draft-horses, especially for cart horses for our cities. I had to stop one day in Havre to get my luggage through the custom house, and my passport vised, which is a very great annoyance. I started from Havre at 11 o'clock, A. M.—arrived at Paris 5 P. M. The railroad runs a good part of the way up the valley of the Seine—most of the way a beautiful country, and in a good state of cultivation. They were plowing and sowing their spring wheat. The plows are cumbersome and awkward things. They have long beams—the fore-end of the beam mounted upon a pair of wheels about half the size of a wagon wheel. Paris is a splendid city, so far as outward show is concerned. There appears to be very little business done in comparison with our cities. I shall not attempt a description of the city, as my business was to see the stock of the different countries I visited.

The first flock I visited was Mr. Gilbert's; he has not only a good flock of sheep, but good horses, and some fine cows. He keeps about 25 cows; some of them have the appearance of being fine milkers; they are well cared for, and are in fine condition as well as the rest of his stock. He has good warm stables for all of his stock. Nothing is left out, unprotected. In fact it is the custom through France and Germany to shelter their stock in the winter season. He appears to be man of a good deal of intelligence and a good farmer. I found him to be kind and obliging. After looking over his stock, he took me a few miles from his place to see the agricultural school at Gruno. It is a government establishment. They have a large farm connected with the school, and are breeding most kinds of stock. Their policy is to cross every thing in the sheep line. They are making a cross between English and Merino. They have English ewes and Merino rams. Of cattle they have almost all kinds—French, English and Swiss. Their bulls were mostly

Swiss, of good size and pretty well formed, but bad handlers. They have some very good hogs of the English breed, and were making a cross of the English and Chinese. The farm appeared to be in a high state of cultivation. Great pains were taken to make and save all the manure.

The next farm I visited was the government farm at Rambouillet. The stock here, is principally sheep. It is the place where the Spanish sheep were first placed, and have been bred by the government ever since. There is a palace there, but not in a very good state of repair at present. It was formerly quite a favorite place of resort as a summer residence for the Kings of France. The Director was very courteous, and took every pains to show the sheep, samples, &c. They have samples of every sheep that they have sheared since they commenced. Everything is done systematically. They have paintings of most of the bucks that have been used. The form of the sheep is not as good as some other flocks that I saw, but the wool is finer. The director gave me some beautiful samples. They sell only once a year, and then at public auction. They sell all the bucks that they raise in that way, except such as they reserve for their own use, and ewes, if they have any to spare. They sold no ewes this year.

I next visited Monsieur Cughnot's farm, who has about the same number of sheep, and about the same quality of Mr. Gilbert's. These three flocks stand at the head. They are the places where almost all resort for bucks. I met a good many sheep breeders from different sections, at those places, buying bucks. February is the month in which they generally select their bucks for the next season. They universally admitted that Messrs. Gilbert and Cughnot had the best sheep in France.

On returning to Paris, I fell in with Mr. George Campbell of our State, who was on the same business that I was, (after sheep.) We therefore concluded to travel together, and purchase in company. We concluded to go to Spain first, as that was the place where the fine sheep came from, and see what we could find. Started from Paris Feb. 4th, went 150 miles by railroad to Tours. The country, a good part of the way, quite poor; saw very little stock. We passed several miles through a valley, I should judge from 6 to 8 miles wide, with a continuous village at the foot of the hills each side of the valley. The valley is meadow and pasture; the hills are planted to vines. Every few rods is a wine vault, all the way. At Tours we took the diligence—found beautiful roads and quite level. The roads are in perfect repair; they keep stones by the side of the road, broken fine, and persons all the while on the road to keep in repair. As soon as they begin to wear down in any place, they put in some of this broken stone. The road will be as straight as you can draw a line as far as your eye can extend. In the south part of France and north part of Spain, they have trees planted each side of the road; many of them have got to be of good size, and form a beautiful shade; they are generally poplar. They drive from 5 to 6 horses—three abreast—go at the rate of from nine to ten miles an hour. Their horses are large, and generally in fine condition. They are a very strong, hardy race of horses. As you approach towards the south of France, you begin to see oxen at work. The first I saw were poor and small; the way they work them is to lash a stick back of their horns, which is the way they do all through France and Spain, and drive them with goads. I never saw them use a whip in Europe, to drive oxen. They take no pains to match them either as to size, color or sex; sometimes they will have an ox and cow yoked together. As we go south, we found the vineyards more extensive and the vines larger; they were trimming the vines. They keep them headed down to about 2 feet high; they bind the parts they take off into bundles for fuel; some they cut close to the main stalk, and others they leave about 3 feet long. They plant them out in different ways; some times they occupy all the land. They put the rows from four feet to four rods apart; when they do not occupy all the land, they till it between the rows; a good share of it was in wheat.

We arrived at Bordeaux, at 8 o'clock, 2d day. It is the second city in France. Its principal trade is wine and brandy. We started from Bordeaux at 8 o'clock next morning—arrived at Bayonne at seven the following morning, 175 miles. The country, part of the way from Bordeaux to Bayonne, is poor—some of the way a perfect desert; and the inhabitants look as poor as the country. After leaving Bordeaux, I noticed that they had the inside horns of their oxen sawed off to about 4 inches long. About half way from Bordeaux to Bayonne we found another kind of cattle; they must be well bred, as they are all alike. I have seen sometimes 20 yoke, I should think, in a string, and any two of them would match. They are not large cattle, but well formed, tight snug built—a yellow red color, with horns about medium length, well formed, and stand about right—we found this kind of cattle for about 100 miles in the south of France, and about the same distance in the north of Spain. They make fine oxen, but what the cows are for milk, I did not learn. The women do most of the marketing in France. In the morning at Bordeaux, and the same at Bayonne, the roads were full of women, carrying their stuff to market; some with mules, but more with donkeys; their stuff put in baskets and slung on each side of the donkeys, and would weigh often more than the donkey. But the greater part carry their vegetables, fish, or whatever they have to carry to market, in baskets on their heads. The diligence starts from Bayonne for Madrid. We had to stop over one day to get our passports vised. We entered the Spanish territory about 25 miles from Bayonne. A small river divides the two countries; the French flag is flying on one end of the bridge, and the Spanish on the other—we had to have our passports vised by the police on leaving France, and again on entering Spain. The country we passed the first day was very good; they raise large quantities of turneps, which stand in the field through the winter. We came to the mountain about dark. They had to put on oxen in two or three places to draw up the diligence. They drive principally mules in Spain—usually from five to nine. They are very cruel to the mules, the whip being in almost constant use, sometimes by two drivers, one on the box and another along side a foot. I have seen these Spaniards run 2 or 3 miles at a time by the side of the mules, on a full gallop, whipping all the time. A good share of the way after striking the mountains, the country is miserable, and the inhabitants more so. If any one wants to see poverty, let him travel through Spain. I have counted ten beggars at one time around the diligence; they are at all the stopping places, and at hills where they have to walk the team you will find them stationed. Everything is done in Spain, I should judge, as it was a thousand years ago. A great share of the stuff goes to and from market on the backs of mules and donkeys. As you get near Madrid, the road is full of them. Saw very little stock on the way but sheep, and they of a very inferior kind. In the north of Spain and south of France, they have the poorest sheep that I ever saw. In many of the flocks two-thirds of them will be black—their sheep are small, with coarse wool, and ill-formed.

The tools used here are very rude and clumsy; their plows are a crooked stick, the mortice through the upright part, just in the turn, and put through a piece of iron which runs along the top of the lower part, an inch or two beyond the point of the wood. With this apology for a plow, they scratch up the ground. In some parts of Spain I saw fine looking crops, cultivated in this miserable way, and without manure. Very little use is made of manure in Spain, except to burn the land. The land must be very strong and rich to bear such crops with such cultivation, and without manure. We were three days and two nights from Bayonne to Madrid.

We called on our minister at Madrid, and found him very ready to do all in his power to assist us. He is a gentleman well fitted for the place, and is very much respected. On inquiry, I found most of the sheep owners lived in Madrid; but the sheep were about 200 miles from Madrid, in Estramadura, in their winter pastures. I became pretty well convinced before leaving Madrid, by conversing with the sheep owners, that we should not find anything that we wanted. Some of them admitted that their sheep were much degenerated, and they were thinking about taking some measures to improve them. They said they were going to Germany to get bucks. All said that their sheep were not as good as they were before the French invasion—that they have no standard flocks to resort to for good sheep, as they had before these good flocks were broken up. But as we had gone so far, we concluded we would go and see for ourselves. When we examined the flocks we found them about as we expected. The sheep, as a general thing, are small—no wool on their legs, and very light colored—occasionally there would be a good looking sheep in the flock, bearing some resemblance to those that were formerly brought from there, but with no fixed characteristics. I should not dare to breed from them, as there would be no certainty in breeding from such animals. I did not see a sheep in Spain that I would pay the transportation on to this country.

Estramadura is one of the wildest parts of Spain, and is rather a hard place for an American to live. Everything is cooked with garlick and oil. It is a great place for Olives, thousands of acres being covered with the trees. They raise a good many hogs in this part of the country. I have seen sometimes 200 in a drove, all black. They are never fed, and are kept by shepherds, the same as their sheep. They get fat in the fall on olives and acorns. There is a good many coarse sheep in this part of Spain. They raise this wool for their own use. They manufacture their own cloth, both wool and linen. Their process of doing it is very slow. I saw them getting out and spinning flax. It is all done by the women. They use no brake in getting out their flax, it being all done by the swingling knife. The spinning part is done wholly with the hands. They take a stick about three feet long, tie the flax on to one end; the other they hold under the arm, and pull out and twist with the other hand. It hardly seems credible that people will live and do as they do. There are large villages where you cannot find a light of glass. They have only one door to their houses, and everything goes in and out at that door. The stable is in the back part of the house, and the animals have to pass in at this door, and the manure out the same way. After looking among the sheep till we became satisfied that there was nothing that we wanted, we put back for France. Resp. yours, W. R. Sanford. *Orwell, Vt., June* 24, 1851.

◆

Sales of Live Stock.

The sales of stock advertised by L. G. **Morris**, Esq., of Fordham, Westchester county, and **George Vail**, Esq., of Troy, took place according to appointment. Mr. Morris's was on the 24th of June. The weather was fair, and there was a large attendance of people. The beautiful lawn in front of Mr. M.'s residence was divided into lots with iron hurdles, and the cattle and sheep to be sold, were brought there in the forenoon, for examination. The stock was generally in good condition, though not in high flesh. At one o'clock the large company was invited to a sumptuous repast, comprising the substantials and many of the delicacies of the season. Soon after this the sale commenced. The bidding was generally brisk, and the animals were speedily disposed of at prices as per following list—which, considering that the larger portion were what are called "grade" stock, may be deemed quite satisfactory. It will be understood that Mr. **Morris** intends to establish himself as a breeder, and this sale should rather be considered as a preliminary step to that object. He has still in his possession that portion of his herd which he designs as a breeding stock. These consist of selected individuals of the Short-horn, Devon, and Ayrshire breeds, each of which are to be bred pure, under his special care.

The stock sold consisted of

THOROUGH BRED SHORT-HORN, COWS, HEIFERS AND HEIFER CALVES.

1.	York, Gen. Gadwallader, Philadelphia,	$110 00
2.	Cleopatra, 9 years old, Gen. Cadwallader,	85 00
4.	Coquette, 4 years old, Edward H. Smith, Smithtown,	50 00
5.	Red Lady, 4 years old, Gen. Cadwallader,	175 00
6.	Eleanora, 4 years old, Gen. Cadwallader,	135 00
8.	Miss Rolfe, 2 years old, A. Van Ingen, jr.	105 00
9.	Fame, 16 months old, Gen. Cadwallader,	60 00
10.	Red Rose, 15 months old, G. Hopkins, Long-Island,	30 00
11.	Kate, 5 months old G. G. Hubbard, West Needham, Mass.,	140 00
12.	Lily, 3 months old, Joel Terrill, Oswego,	80 00
13.	Beulah, 2¾ months old, Gen. Cadwallader,	55 00
14.	Pocahontas, 11 years old, Henry Parsons, C. W.,	100 00

IMPROVED DAIRY STOCK.

Cows, Heifers, and Heifer Calves.

15.	Beauty, 6 years old, Dr. A. Smith, New Rochelle,	105 00
16.	Sue, 8 years old, Richard Lewis, N. Y.,	100 00
17.	Watson, Henry Parsons,	80 00
18.	Strawberry, Gen. Cadwallader,	75 00
19.	Bess, 6 years old, G. Hopkins,	65 00
20.	Gazelle, 4 years old, G. W. Thacher, Pelham,	105 00
21.	Alarm, 3 years old, John Rae, Morrisania,	37 50

22.	Lady Independence, 3 years old, Robert Segoin, Richmond county,	67 50
23.	Miss Stewart, 2 years old, Jas. Robertson, Peckskill,	70 00
24.	Harlem Maid, 2 years old, Gen. Cadwallader,	75 00
25.	Lady Canning, 2 years old, G. G. Wilmerding, Suffolk county, L. I.,	120 00
26.	Marietta, 2 years old, Gen. Cadwallader,	70 00
27.	Sabina, 2 years old, Dr. Smith,	77 50
28.	Miss Mary, 19 months old, Robt. Segoin,	75 00
29.	Bessie, 18 months old, J. J. Mapes, New-Jersey,	35 00
30.	Clara, 14 months old, Robt. Segoin,	30 00
31.	Laura, 9 months old, Gen. Cadwallader,	30 00
32.	Lucy, Gen. Cadwallader,	37 50
33.	Helen, 3½ months old, Morris Ketchum, New-York,	100 00

SHORT-HORN AND AYRSHIRE CROSS.

34.	Countess, 4 years old, Gen. Cadwallader,	82 50
35.	Jeannie, 2 years old, Morris Ketchum,	90 00
36.	Betty Merryman, 9 months old, P. R. Paulding, Tarrytown,	60 00

NEARLY THOROUGH BRED DUTCH.

37.	Julia Edgar, Lewis Livingston, Rhinebeck, Dutchess co.	120 00
38.	Dinah, Lewis Livingston,	37 00
39.	1 yoke of oxen, S. T. Wright, Morrisania,	145 00

BULLS.

Thorough-Bred Short-horn.

1.	Logan, 23 months old, Oliver Slate, Jr., Pelham,	175 00
4.	Mark Anthony, Jas. B. Wilson, East Troy, Wis.,	135 00
5.	Passaic, 2 months old, Joel Terrill,	50 00

Bulls slightly crossed with Amsterdam Dutch.

6.	Pontiac, 15 months old, J. G. Goodwin, Kingsbridge,	70 00
7.	Red Rover, 5¾ months old, T. Rives, Virginia,	105 00
8.	Medley, 11 months old, Ed. Biddle, Morristown, N. J.	65 00

Pure Bred Devon.

10.	Barton, 17 months old, Gen. Cadwallader,	145 00

BUCK LAMBS.

1.	Buck lamb,	3 months old, Aaron Clement, Philadelphia,	30 00
2.	do	2½ months old, Ed. G. Faile, West Farms,	30 00
3.	do	3¾ months old, Lincoln Brooks, Providence, R. I.,	30 00
4.	do	3¼ months old, Gen. Cadwallader,	30 00
5.	do	2¼ months old, Gen. Cadwallader,	25 00

SWINE.

The following pigs were dropped from 7th to 10th April last.

1.	One pair of pigs,	Henry Parsons,	37 50
2.	do	Gen. Cadwallader,	30 00
3.	do	Churchwell,	30 00
4 and 5.	Two pair of pigs,	G. G. Hubbard,	50 00
6.	One pair of pigs,	Capt. Spencer, Westchester,	20 00
7.	do	Thos. Hancock, Burlington, N. J.,	20 00
8.	do	Henry Parsons,	30 00
9.	do	Aaron Clement,	27 50
10.	One boar,	Lewis Livingston,	17 00
11.	do	Gen. Cadwallader,	17 00
12.	do	Jas. B. Wilson,	17 00
13.	do	Thos. Hancock,	16 00
14.	do	Lincoln Brooks,	16 00
16.	1 sow, 9 months old,	G. G. Hubbard,	30 00

From the foregoing it will be seen that the pure bred bulls and bull calves, four in number, averaged $126.12 per head. The Improved Dairy Stock, consisting of cows, heifers, and heifer calves, twenty in number, averaged $78.87 per head. Grade bull calves, three in number, averaged $80 per head.

Suffolk pigs, twenty-three in number, dropped from the 7th to 10th of April last, averaged as follows:

9 pair averaged per pair,	$27 23
5 boar pigs, per head,	16 60
1 sow, in pig,	30 00

South-Down ram lambs, dropped from 21st March to 19th April last, averaged, per head, $29.

Mr. VAIL's sale took place on the 26th of June. The attendance was not so large as at Mr. MORRIS's, though there were, perhaps, as large a number of persons who came to *buy*. The weather was highly favorable, and the company began to assemble at an early hour, and were engaged in examining the stock till noon, when they were invited to refreshments,—tables for which, bountifully loaded, were set in the house, and in the delightful grove which surrounds it. While the company was thus engaged, the cows and heifers were brought up and tied round a circle prepared for the purpose in the grove. The cows were sold first, and when the first one was brought to the hammer, it was evident that many of the by-standers were not mere lookers-on. The competition for the best animals was decidedly sharp, and the sale of the animals advertised, with the exception of one which had died, (Duke of Wellington,) was speedily wound up, as follows:

Statement of the Sale of Mr. Vail's Short-horns, June 26th, 1851.

COWS AND HEIFERS.

1.	Lily 2nd., (six years old,) Gen. Cadwallader of Philadelphia,	$170
2.	Lily 3d., (three years old,) Henry Wells, Aurora, N. Y.,	135
3.	Lily 4th., (about eighteen months old,) Gen. Cadwallader,	90
4.	Lily 5th, (calved 19th March, 1851,) Gen. Cadwallader	165
5.	Fun, (seven years old,) Henry Wells,	235
6.	Dahlia 5th., (two years old,) Gen. Cadwallader	75
7.	Eunice 2nd., (ten years old,) Gen. Cadwallader,	160
8.	Eunice 3d., (eight years old,) John Osborn, Marshall, N. Y.,	125
9.	Wild-dame 4th., (three years old,) Gen. Cadwallader,	225
10.	Wild-dame 6th, (calved 20th Feb. 1851—sick,) Gen. Cadwallader,	55
11.	Daisy 3d., (seven years old) S. P. Chapman, Clockville, Madison Co., N. Y.,	230
12.	Daisy 5th., (about twenty months old,) Gen. Cadwallader,	150
13.	Fillpail 5th., (about twenty months old,) Gen. Cadwallader,	95
14.	Victoria 4th., (four years old,) Henry Wells.,	90
15.	Rosette 2nd., (four years old,) General Cadwallader,	175
16.	Rosette 3d., (about twenty months old,) William Osborn,	80
17.	Rosette 4th., (about ten months old,) Gen. Cadwallader,	105
18.	Yellow-Skin, (two years old,) Gen. Cadwallader,	110
19.	Willy, (fourteen years old,) Gen. Cadwallader,	90
20.	Profitable 2nd., (about ten months old,) Henry Wells,	125
21.	Victoria 5th., (about two months old,) Gen. Cadwallader,	75

BULLS.

24.	Beppo 3d., (calved 2d September, 1848,) Thos. Richmond, Esq., Gananoque, C. W.,	140
25.	Leopold, (calved 6th Oct., 1840,) Mr. Cameron, near Kingston, Canada West,	50
26.	Grand Duke, (calved 24th Feb., 1850,) John Osborne	95
27.	Falcon, (calved 23d Sept., 1850,) Thos. Richmond, Esq., Gananoque, C. W.,	90
28.	Marquis, (calved Aug., 1849,) Thos. Richmond, Esq.,	60
29.	White Prince, (calved 12th April, 1851,) M. F. Yates,	55

HEIFER CALVES.

30.	Beauty, (about two months old,) Wm. Osborn,	90
31.	Red Lady, (about two months old,) Gen. Cadwallader, [not on catalogue,]	60
32.	Fashion, (bull calf about six weeks old,) [not on catalogue] Gen. Cadwallader,	30
33.	Fillpail 6th, (yearling heifer,) [not on catalogue,] ——Wilson, Esq., N. Y.,	90
		$3520

AT PRIVATE SALE—NOT ADVERTISED.

Lady Barrington 5th, (two years and ten months old) got by Meteor out of imported Lady Barrington 3d, purchased by Aaron Clement, Esq., for T. P. Remington, Esq., of Philadelphia,	350
Hilpa 4th, roan, heifer calf dropped April 9th, 1851, being two months and seventeen days old, got by Duke of Wellington out of imported Hilpa, to S. P. Chapman	300
	$4170

It will be perceived by reference to the above statement that there were 19 cows and heifers sold which brought,	3010
Averaging about $160 each.	
7 Heifer calves brought,	640
Averaging $91 each.	
7 Bulls and bull calves brought,	520
Averaging $74 each.	
In all 33 animals, including two heifers at private sale,	$4170
The whole lot old and young averaging $126 each.	

◆

Wrong Management.

EDS. CULTIVATOR—I saw in the Cultivator an article stating you would like to have the farmers' boys ask some questions in regard to farming. My father has taken the Cultivator some years, and I have read it very thoroughly. It seems as though I could see a new light springing up through it.

The manner in which some farming is carried on in this section of the country, seems to me to be very bad. In taking care of stock in the fall and winter, when it is muddy and wet weather, many farmers keep their cattle out doors, instead of putting them into a good warm stable, and feeding them there. They often leave them out doors in the rain, exposed to cold winds enough to freeze a creature. They will consume a great deal more food than they will in the barn. Their cattle have to go too far after water, and when they get there, will fill their bodies to excess, and on their return they will pitch into the hay as though they had not had anything to eat for several days—frequently, they will go but once a day to water. I think a creature ought to have water as often in the winter as in the summer. I think if a farmer is able to keep a farm, he is able to have water in his farm-yard.

In sowing their grain, they will always try to be very saving of it; and then they will not put enough on to the land; and just so with their grass seed; they leave a great many spots that will not be covered. Then there will be a great chance for Canada thistles and other foul stuff to take root. I have seen a great many sow their old seed that they would collect in the barn, full of all kinds of seeds, instead of going to the seed-store and getting good seed. A Youth. *Bridgewater, N. Y.*

Stage for Cutting Plants for Hay.

There has heretofore been considerable diversity of opinion in regard to the proper stage at which plants should be cut for hay. It will be remembered that this journal has for several years advocated the practice of cutting while the herbage is in flower, on the principle that a greater amount of nutritious matter is then contained in the plant than at a later stage. Although the present haying season is nearly over, the following observations from the *North British Agriculturist*, will be read with advantage. The remark in regard to the value of the rowen or aftermath, we believe to be entirely correct, being supported by the experience of many of the best farmers. The remarks in regard to rye-grass, would apply equally well to most grasses cultivated for hay in this country.

As regards the common mixtures of rye-grass and clovers, the most common error is in allowing these to become *over ripe previous to cutting*. This is a most serious mistake, and one that no after management can remedy. Both rye-grass and clover as they begin to mature the seed, are converted into a woody texture, the starch and gum undergoing a change, as the seed arrives at maturity. As the seed of the rye-grass becomes matured, it drops off, during the process of forming it into hay; while that of the clover plant loses the leaves and often the flower. The wonder is, after so much has been written about the evils which result from allowing hay to become over ripe, that custom and prejudice should continue so powerfully to influence the practice of many farmers. The bulk is indeed greater, but the weight is often not increased, arising in part from the plants losing their leaves and seeds. Irrespective of the loss of the leaves and seeds, the second crop of grass is seriously injured when the first crop is allowed to stand beyond the proper period.

There is a very common mistake as to the nutritiousness of a second crop of hay. For fattening, second crop clover if properly saved, is superior to the first crop, if the summer and harvest months have been propitious. The propriety of cutting grass at the proper period of ripeness is not alone dependent on the first crop. The value of the second crop necessarily forms an important element in determining upon early cutting, and the weight of the two crops should always be taken into account in forming an opinion of the relative profitableness of the one over the other. As a rule, all grasses intended for *hay* should be cut as soon as the pollen of the flower is observed to rise in a gentle breeze in a cloud of dust from the field; this will be about three weeks after the heads of the grass have burst out of the hose.

The Locust.---Cicada Septendecim.

This interesting insect has appeared the present season, in several districts of the country. It has long been known that its period of appearance, once in seventeen years, did not occur in the same year everywhere, but that it is seen in different places in different years. The fact, though singular, has attracted but little attention till lately, and it has, indeed, been doubted by many persons. To Dr. G. B. Smith, of Baltimore, Md., the public is indebted for the result of some very close and thorough investigations in regard to the habits of these insects, which have not heretofore been well understood. He says—

"I have the particulars of twenty-eight districts in the United States, in each of which these insects appear every seventeen years; but each district has a different time for its appearance from that of any neighboring district. For example, the locusts appeared about Richmond, and east of the Blue Ridge in Virginia, in 1843, and will appear there again in 1860; while on the west of the Blue Ridge they appeared in 1844, and will appear again in 1861. So it is over the whole of the United States south of latitude 44°, north of which I have not yet heard of their appearance. I have no doubt that they appear throughout the west as far as the shores of the Pacific. I have the fact of their appearance at Independence, the western limit of Missouri. In some one part of the American territory, they appear no doubt, every year. I have only been able to get authentic accounts of their appearance in fourteen out of the seventeen years."

Dr. S. thinks the locust does not pass from one district to another; that though it can fly, its flight is limited. In general, rivers and mountains are boundaries of these districts; but very high winds, it is thought, sometimes drives it a considerable distance, even across rivers. With this exception, he thinks they will not pass over a river an eighth of a mile wide. Still he thinks they will ultimately appear once a year over the whole country, "in consequence of the mingling of the districts by the insects being wafted by the winds from one to another."

Dr. S. has critically examined the insect in all its stages. He has found that the eggs, which are deposited in the limbs of trees, hatch (in the latitude of Baltimore,) about the 25th of July—having been deposited from the first to the 25th of the previous month. The young insects, as soon as hatched, come out of the branch of the tree, drop to the ground, and immediately work their way into it, where, as stated by Dr. S. "they attach themselves to the tender roots of grass and other vegetables,"—sucking the moisture which exudes from the roots. He states that with a good magnifying glass, it can be seen that "the young insect has every feature and member precisely the same as the large one had when he came out of the ground in the spring."

Dr. S. mentions that pigs and fowls are very fond of locusts, and eat large quantities of them as soon as they appear above ground. "So fond," he says, "are the fowls, birds, and pigs of these insects, that they will scarcely touch other food during the locust season. This has a remarkable effect on the hen's eggs laid after the locusts appear—their yolks are nearly all *white*. The chickens become very fat and of fine flavor."

◆

Col. Sherwood's Stock.

On another page of this number, (272,) is a cut of the Short-horn bull "Earl of Seaham," whose pedigree has been furnished us as follows:

(10,181.) Roan; calved April 21, 1848; bred by John Stephenson, Esq., Wolviston, county of Durham, England; imported 1850, by A. Stevens and J. M. Sherwood; got by Earl of Antrim (10,174;) dam, Primrose, by Napier (6238;) grandam, Rose Ann, by Bellerophon, (3119;) great grandam, Rosette, by Belvidere (1706;) gr. gr. grandam, Red Rose, by Waterloo (2816;) gr. gr. gr. grandam, Moss Rose, by Baron, (58;) gr. gr gr. gr. grandam, Angelina, (bred by Sir Henry Vane Tempest,) by Phenomenon (491;) gr. gr. gr. gr. gr. grandam, Anna Boleyn, by Favorite (252;) gr. gr. gr. gr. gr. gr. grandam, Princess, (bred by Robert Colling,) by Favorite (252;) gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, by Favorite (252;) gr. gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, (bred by Alexander Hall,) by Hubback (319;) gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Brighteyes, by Snowdon's Bull (612;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Beauty (bred by Thomas Hall,) by Masterman's Bull (422;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Duchess, of Atholl, by Harrison's Bull (292;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, Tripes, (bred by C. Pickering,) by the Studley Bull (626;) gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. gr. grandam, (bred by Mr. Stephenson, of Ketton, in 1739,) See 9th vol. Herd Book, pages 65 and 526.)

This is unquestionably a valuable bull. His points, both as regards shape and handling, indicate properties which are highly prized in this breed of cattle. He has a small, neatly turned head, with a bright, mild eye; the head handsomely joined to the neck, which rises handsomely from the shoulders. The chest is remarkably capacious for an animal of his age—being full and round in front. His crops and chine are hardly equal to his other points, but his back is generally level, his ribs broad and gradually swelling from the shoulders towards the hips; the loin wide; the hips large and round; the rump long; the flanks deep and full, and the hind quarter altogether well developed. His hide is of good substance, and elastic. His general form is compact, giving great weight for the apparent size. We saw him weighed on the 2d of July, and his weight was 1,952 lbs. He received the first prize of the New-York State Agricultural Society in 1850, as the best two-year-old Short-horn bull; also the first prize for Short-horn bulls at the show of the American Institute, 1850. We are informed that he is for sale. He may be seen at Col. Sherwood's farm, Auburn, N. Y.

The public are aware that Col. Sherwood has taken much pains to improve his stock of cattle. His herd of Short-horns was formed in the first instance, from animals selected from several herds of note in this country. Latterly he has made some direct importations. One of the first of those was the bull 3d Duke of Cambridge, bred by the late Thos. Bates, Esq., imported in 1849. This animal received the first prize at the State Fair at Syracuse, and was shown in the "extra" stock at the Fair at Albany. Col. S. has now on his farm thirteen of the progeny of this bull—eleven of which are full bloods. They are from a few weeks to about one year old. In points they are mostly very fine—evincing a decided improvement in symmetry, tendency to early maturity, and what is technically termed *quality*, over Col. S.'s former stock. This bull, though now in his tenth year, has all the vigor and sprightliness of the prime of life, and he bids fair to continue his usefulness several years.

Col. S. has several other imported animals, which are from the herd of Mr. Stephenson. Among these a cow called Red Rose 2d, deserves mention. She was calved Nov. 1846—was imported in the autumn of 1849. She has had two calves, both heifers—one dropped Oct. 22d, '49, the other May 2d, '51. Col. S. gave us an account of a trial which was made with her milk the present season, from the 20th of May to the 19th of June—30 days—as follows: The milk was weighed at each milking—kept by itself, the cream taken from it and made into butter—the churning being done twice a week, and the produce of each churning weighed. The weight of milk was 37 lbs. (probably equal to 18 quarts) per day, and the aggregate amount of butter for the 30 days was 60¼ lbs. We had several opportunities of tasting a sample of the butter, and it was of superior quality.

Both the calves which this cow has produced, are very fine. She is, herself, a cow of excellent points—perhaps a little too "fine drawn" in the head and neck; but the general proportions of her body are very good, and her indications for the production of butter, are seldom surpassed.

◆

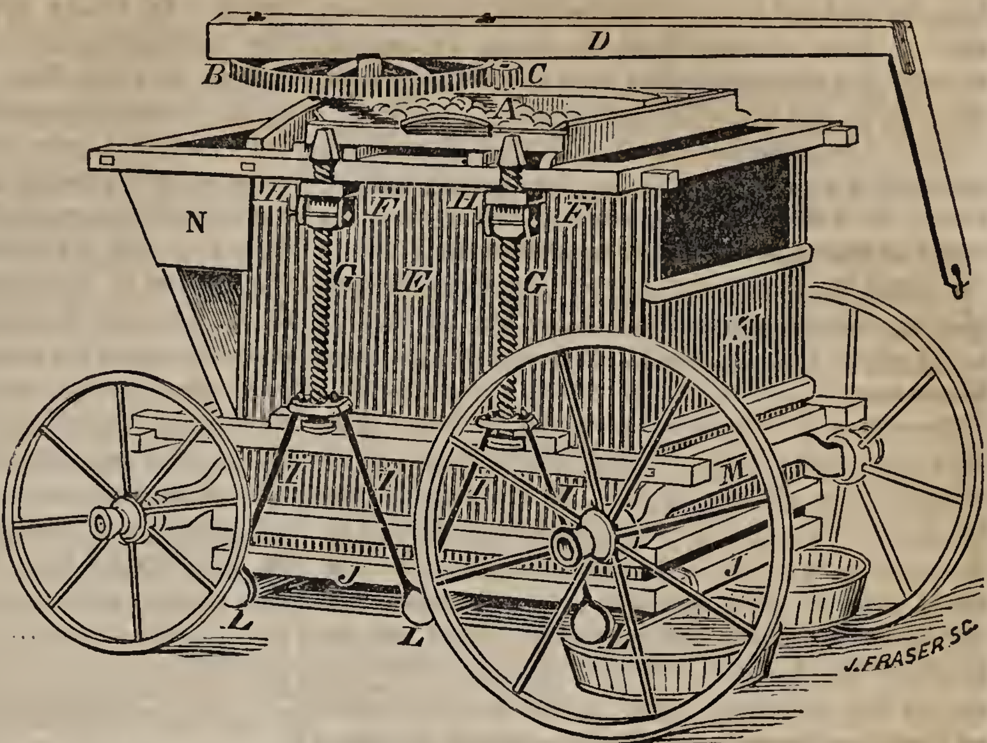
Agricultural Publications.

Eds. Cultivator—If farmers would read and put in practice the teachings contained in The Cultivator and other periodicals, they could hardly fail of making progress in agricultural knowledge. From reading some of the early volumes of The Cultivator and Genesee Farmer, I was induced to change from a shallow, to a deep and thorough system of cultivation—paying particular regard to drainage, and the saving and application of manures—which have more than doubled the products per acre; and not only so, it has rendered the products measurably sure, and failures that were heretofore charged to the seasons, were found to be chargable to the method of cultivation.

I have mentioned the sources to which I am mainly indebted for the progress that I have made in agricultural improvement at this time, for the reason that of late we not unfrequently see it stated that eastern agricultural papers are not adapted to our wants—that they are not calculated for this latitude. Now whilst we admit the merits of our western papers, and are from duty and interest bound to sustain them, it is not admitted that eastern papers are not adapted to our wants; for we believe that wherever they are read, and what they teach is put in practice, they will answer for this or any other latitude where the cultivator of the soil is desirous of improving in his business. Linus Cone. *Troy, Oakland county, Mich., June* 25, 1851.

To Prevent Oxen from Crowding, it is only necessary to lengthen the yoke, often, in extreme cases, from 12 to 18 inches longer than those usually worn.

Chapin's Portable Cider Mill



This machine is designed for travelling over the country and making cider in the orchards. It was invented by Mr. N. Chapin, of Syracuse, N. Y., as an improvement upon his former mill of a similar character.

The annexed figure represents a perspective view of the large mill, which is to be conveyed and operated by horse power. The apples are placed in the hopper at A. B is a 42 inch spur-wheel which mashes with the pinion C, so that when a horse is attached to the sweep D, the grinding is done by a pair of cast-iron circular plates, about 20 inches in diameter, placed in a horizontal position in the upper part of the press-crib E. Both plates are bestudded with short triangular teeth and the under one is perforated with numerous small holes for discharging the pumice, that being sufficiently ground before it reaches the periphery of the plates. The press-crib E is constructed of slat-work, 3 feet by 5, and 4 feet high, constituting the main bulk of the machine.

When the crib is filled with pumice and frequent layers of straight straw, moistened with water, planks are placed over the pumice, and and under the press-beams, which pass through the crib at F F, having broad iron bars, like tenons, projecting through the slats that intersect the screws G G by embracing the nuts H H between them. The stirrups I I suspend the platform of the press J J to the end of the four screws, so that the screws can neither rise or fall when turned, but the nuts, beams and press-plank are all forced down, thus contracting the pumice into the lower part of the crib, forcing the cider through on all sides, which is conducted to the tubs by a channel in the margin of the platform J J.

After the pressing is finished, the tubs and rear grate K are removed, and the cheese is disposed of by detaching the stirrup from the stringers L L and letting the platform and cheese to the ground. The platform is similar to a sled with the cheese upon it, which is drawn out under the rear axletree M by a horse and left clear from the mill.

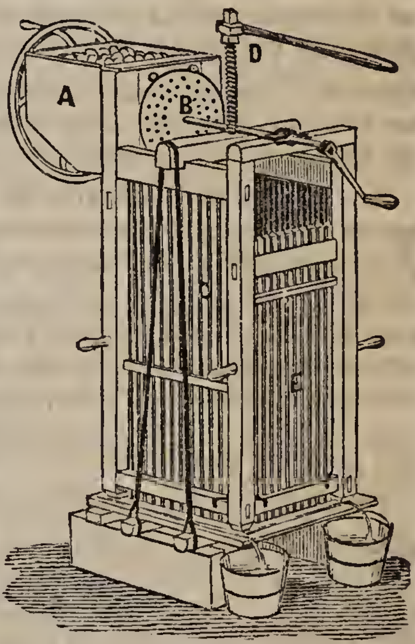


Fig. 2.

Fig. 2 represents a variation of the same thing, expressly adapted to hand power. A is the hopper containing the apples, B are the grinding plates, the same as are in the large mill, except their position is vertical instead of horizontal. The small dots represent holes in the running plate, which assist in grinding and discharging the pumice into the press-crib C for pressing. D is the screw and lever by which the pressing is done; E is a moveable door of the crib for removing the cheese after pressing.

This machine has two cranks, one in front and another attached to a fly-wheel in the rear of the hopper, so that the power of two or more men may be applied to grinding the apples. The machine is moved from one place to another by means of handles. See Mr. Chapin's advertisement in this number.

Letter from B. P. Johnson, Esq.

London, June 12th, 1851.

Eds. Cultivator—Since I last wrote you, I have visited the farm of Mr. Tanqueray, a distiller in town, who has amassed quite a fortune, and has selected a farm of a few hundred acres about six miles from town, which he is putting in excellent order, and on which he is raising a fine herd of Short-horns. Mr. Tanqueray is getting together the "*Nell Gwynns*," and has now about 20 of them of undoubted character—the largest number of that strain of cattle owned by any one person. They are very uniform in their appearance, and of marked and distinctive character, and so far as Mr. T. has tested them, prove of good milking character. He had six brought home the day previous to my visiting his place, which Mr. Strafford bought for him in Preston, or near that town. It is Mr. T.'s intention, I believe, to keep this breed, and he is now crossing his cows with some good bulls—using "Lord Durham" this season—a very compact, fine bull, well suited, I should judge, to his cows. Mr. T. is very spirited, and will, I doubt not, soon obtain eminence in his new enterprise. He, like Mr. Harvey Combe, has entered into the matter of breeding "con amore," and I should presume, from their energy and enterprise, that they will leave no means untried that will probably lead to a successful result. It is a work of time and money to become a successful breeder; but these gentlemen have the means, the energy, and from what I can judge, the capability to succeed.

Mr. T. has some very promising young animals, and I believe he intends to increase his "Gwynns" until his heard will be of that strain. His breeding farm is in good order, considering the short time he has had it under his care, and it is really most exhilerating to escape from the dust and smoke of this immense pile of bricks, and in a ride of six miles from St. James Palace, find yourself on a quiet, snug farm, with all the freshness of the country, and with all its attractions.

Mr. T.'s farm was in much disorder when he took possession of it a few years since; but by draining and manuring, he is changing its appearance, and it wears the aspect of an improved and improving farm.

I met at Mr. Tanqueray's, several gentlemen interested in agriculture, as practical farmers, and the visit was a very pleasant one, which I hope to renew at a more leisure day.

The sale of Mr. Combe's stock, which I visited some days since, took place on Tuesday, the 10th inst., at the Downside Fair, Cobham Park. The day was unfavorable, but between two and three hundred gentlemen sat down to a sumptuous lunch previous to the sale. The cattle were in good condition. Mr. Strafford conducted the sale. The biddings were spirited, and the prices, (I heard several gentlemen remark,) were higher than they expected. There were 28 cows and heifers sold, which averaged over 30 guineas each, the highest bringing 49 guineas. Six heifer calves realized an average of 18 guineas each. Three bull calves brought upwards of twenty-two guineas each. Considering these are what they call *free trade* times, very disastrous to the farmers here, I think the sale was an excellent one.

Mr. Thomas Bell was with me at the sale, and he agrees with me that there can be no good ground of complaint as to prices. I was very much disposed to buy one of the heifers for friend Kirtland, as I think it would have suited him; but the price went far beyond my idea of what was desirable for our side of the water—though I am satisfied she would have been much cheaper at the price, than many that have reached our shores from this side of the water.

I like much the practice here of using a little sand-glass, which empties itself in less than half a minute, and unless a bid is made before the sand is run, the last bidder has it. It expedites wonderfully, and brings men to a decision, and saves much trouble. I met Mr. Jonas Webb and several other gentlemen of distinction, who are known for their interest in breeding.

Horticultural Show at Chiswick.—On Saturday last, 7th of June, the second Horticultural Exhibition for the season took place at Chiswick. The day was somewhat damp, and with occasional rain in the early part of the day, but the attendance was estimated at ten thousand, and I should suppose at least that number must have been present during the afternoon. The show is said to have been one of the best the society has held—certainly it was one of extraordinary richness in all its departments. Some extraordinary Pitcher plants from Messrs. Vietch, of Exeter, and some Cacti from Lady Antrobus, attracted very great attention. In connexion with the usual exhibition, was an American exhibition, by Mr. Hosea Waterer, the original grower of Rhododendrons, which was very fine—in fact some of the groups of Rhododendrons and Azaleas, were unsurpassably beautiful. The display of Pelargoniums, Pinks, Pansies, Calceolarias, both new and old varieties, was uncommonly rich. The collection of green-house plants, was very extensive, and many of them of uncommon richness and beauty. Of Fruits there were choice Pine-apples, Grapes, Peaches, Strawberries, &c.

Roses were very fine. The Yellow Persian, exhibited by Mr. Francis, appeared to me of uncommon beauty, and I perceive a prize was awarded to it. There were many other flowers and plants of great beauty—and the whole exhibition, notwithstanding the unfavorable weather, exceeded my highest anticipations. The music from several of the military bands was given in the perfection for which they are celebrated, and added much to the interest of the occasion. Among the distinguished personages in attendance, were the Duchesses of Orleans, Sutherland, and Argyle. The Count of Paris, Marquises of Winchester, and of Tweeddale, Lords John Russell, Blantyre, &c.

The receipts of the Crystal Palace, up to and including Saturday 7th June, were as follows:

Daily Visitors,		£71,421 03
Season Tickets,		65,976 15
Subscriptions,		64,344 00
For privilege to print the Catalogues,		3,200 00
For privilege to supply Refreshments,		5,500 00
		£210,441 18
Liabilities—		
Building,	£130,000 00	
Management, printing, &c.,	25,000 00	
Police,	10,000 00	
Prize Fund,	20,000 00	
		185,000
June 7th, surplus on hand,		£25,441 18

There are a variety of projects on hand to dispose of the surplus. But I have heard no one, as yet, suggest what I think should be done—pay the exhibitors the expense they have incurred in getting up the show, especially those from foreign countries and from England, those residing out of London and its vicinity. I have no hopes, however, of any such course being adopted—far more likely to get all they can to embellish the Park, or create a permanent fund to keep up the building, and open it as a public promenade, with plants, &c.

I am in receipt of papers and letters by the Cunard steamer just arrived. I notice several letters from this side are published, some of which, of an early date and official character, have been quite unfortunate in the character assigned to our exhibition. As the reality does not come up to the statements made,—the London journals, the "Times" especially, have taken occasion to charge upon the country at large, this, to say the least of it, boasting description of the American contributions, as entirely characteristic of our country. My own impressions, which have been strengthened by every day's observation here, are that if a little patience had been observed, until our exhibition was fully opened and arranged, it would not have elicited such a series of ill natured remarks, as have characterised the journals here—particularly the "Times" and "Morning Chronicle." I do not imagine any serious injury will result to our country. I think it will all be productive of benefit in the end; it however renders it very unpleasant for the exhibitors here to be constantly met with the sneers of those who, taking their cue from these journals, have not brains enough, many of them, to know what things are really valuable and useful in our collection, and what not. The Times, which I send you, of the 10th, has one of these snarling articles, which is unworthy of the paper, but which is *suited* to the market for which it is written—and which may give some of our people, an idea of what the *real* feeling is among those who manage affairs here.

In our minister here, Mr. Lawrence, we have a representative who, in my judgment, does great credit to his country. No one can be more indefatigable in his endeavors to promote the best interest of his country, and his attention to his countrymen, and his endeavors to facilitate them in all their movements here, entitles him to the warmest commendations. He has been unceasing in his efforts to further the great objects of the exhibition; and if it shall not prove in the end, all that it was hoped it might have been, it will not be from any want effort on his part, in every respect commensurate with the great work. I feel under very great obligations to Mr. L. for his constant endeavors to facilitate my labors in every direction. Truly yours, B. P. Johnson.

The Patent Office Report.

Agricultural Department,
U. S. Patent Office, July 5, 1851.

Editors of the Cultivator—Gentlemen: In your remarks on the Report of the Commissioner of Patents for 1849–50, you say, " We should have been much interested with many of the articles, had we not read them before in the Southern Cultivator and Genesee Farmer, which had been made the medium of giving them to the public before the report was issued."

The above statement is a mistake. No part of the report named was printed in any journal before it was submitted to Congress and became a public document, and accessible to the press generally. The New-York Tribune and Washington Republic copied a few chapters from this public document, and from those daily papers a part was copied into the Genesee Farmer and Southern Cultivator. The report was not "issued" from the press of the public printer till many months after it had left the Patent Office.* The report for 1850–51 has been a public document over four months, and yet not a line of it has appeared in the Genesee Farmer or Southern Cultivator; although I have been anxious to find time to copy for the last named journal, a very able essay from the pen of one of the Editors of the Albany Cultivator, which this report contains.

By publishing the above you will oblige me, and correct an error. Yours respectfully, Daniel Lee.

* We are unable to discover the "mistake" to which our correspondent alludes. We are not informed as to the precise time when the report was "issued." We received the only copy to which we have had "access," in June last, and saw the document for the first time only a few weeks previously. How it could be "accessible to the press generally," till it was regularly "issued" or circulated, is not understood. In the *Genesee Farmer* for June 1850, is an article, ostensibly original and *editorial*, entitled "A General View of American Agriculture." This article is entirely an abstract of Chapters I and II, given in the report, pp. 22–28. Not a word is said about its being "copied" from the "New-York Tribune," "Washington Republic," or any other work. This was *one year* before the document was "accessible to the press generally." In the same periodical, for July 1850, that part of the document embraced in pp. 6–13 is given under head of "Patent Office Report—Part II," with the signature of Dr. Lee. We cannot particularly refer to the articles which appeared in the *Southern Cultivator*, not having the files at hand.

Cattle Shows and Fairs this Autumn.

STATE EXHIBITIONS.

NEW-YORK.—To be held at Rochester—all articles to be entered and to be on the ground before 12 o'clock on *Tuesday, Sept.* 16. On *Wednesday* the exhibition will be open only to the Judges, Guests and Members of the Society—(any person can become a member by the payment of $1.) On *Thursday* and *Friday*, it will be open to all. Tickets of admission, 12½ cents.

VERMONT.—In pursuance of a call made by over two hundred of the agriculturists and raisers of stock in this State, a public meeting was holden at Middlebury, on the 16th June, 1851, at which it was resolved that a State Fair be holden at Middlebury, on the 10th and 11th days of September next. The main object of the Fair is to make an exhibition of our stock, our cattle, our horses, and our sheep. The public may be assured that the best specimens of Black Hawk colts, Morgan, Hamiltonian, and Eclipse stock, and of French and Spanish Merino, and other breeds of sheep, the best Durham, Ayrshire, Hereford, and Devonshire cattle, will be exhibited, and also the best specimens of native cattle, including oxen, cows, and young cattle. Officers and committees were appointed to carry the above resolution into effect—President, Hon. F. Holbrook, Brattleborough—Secretary, Maj. E. R. Wright, Middlebury.

NEW-HAMPSHIRE.—The State Fair is to be holden at Manchester—time not stated.

GEORGIA.—At Macon, in October.

OHIO.—At Columbus, Sept. 24th, 25th, and 26th.

PENNSYLVANIA.—At Harrisburgh, in October.

State Fairs are also to be held in *Maryland*, *Michigan*, and *Rhode Island*, but at what times and places we are uninformed.

NEW-YORK COUNTY SOCIETIES.

Oneida.—At Utica, Sept. 9, 10, 11, and 12.
Saratoga.—At Mechanicsville, Sept. 9, 10, and 11.
Essex.—At Elizabethtown, Sept. 17 and 18.

◆

The New Postage Law, which went into effect on the 1st of this month, (July,) fixes the rates as follows:

I. Letters.—Letters of half an ounce or under, not over 3,000 miles, pre-paid, 3 cents—not pre-paid, 5 cents. Each additional half ounce, at the same rates. For any distance exceeding 3,000 miles, double these rates.

Sea Letters.—For any distance over 2,500 miles, when carried wholly or in part by sea, 20 cents the half ounce, and for any distance under 2,500 miles, 10 cents.

Drop Letters.—Letters placed in the post-office for distribution only, one cent.

Advertised Letters, one cent extra.

II. Newspapers.—Weekly papers, not exceeding three ounces in weight, in counties where published, free.

Out of the county, under 50 miles,....	20	cents	per year.
Between 50 and 300 miles,.	40	"	"
" 300 and 1,000 miles, ...	60	"	"
" 1,000 and 2,000 miles, ...	80	"	"
" 2.000 and 4,000 miles, ...	1.00	"	"
Over 4,000, miles, ...	1.20	"	"

Semi-weekly, double—tri-weekly, treble—and daily papers, five times the above rates.

Monthly papers, one-fourth, and semi-monthly, one-half the above rates.

III. Other Printed Matter.—On each circular, engraving, hand-bill, pamphlet, periodical, magazine, book, and every other description of printed matter, as follows:

For 500 miles or under,....................	1	cent	per oz.
Between 500 and 1,500 miles	2	"	"
" 1,500 and 2,500 miles,............	3	"	"
" 2,500 and 3,500 miles,............	4	"	"
Exceeding 3,500 miles,...........	5	"	"

Important Provisions.

1. " Subscribers to all periodicals shall be required to pay one-quarter's postage in advance; *in all such cases, the postage shall be* ONE HALF *the foregoing rates.*"

II. The postage on all printed matter, other than newspapers and periodicals, to be PRE-PAID.

III. Bound books, and parcels of printed matter, not weighing over 32 ounces, shall be deemed mailable matter.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand, since our last, from S. W. Johnson, Linus Cone, A Young Farmer, H. B. D., Thomas W. Field, W. R. Sanford, Prof. J. P. Norton, A Subscriber, J. W. Proctor, S. T. Atherton, S. S., Old Man of the Mountain, D. D. Devoe.

"Joint-Worm" in Wheat.—We have received a communication from Alex. Rives, Esq., of Carlton, Albemarle co., Va., describing the ravages of an insect known under the above name. Specimens of growing wheat, containing the insect were enclosed in Mr. R.'s letter. These we forwarded to Dr. Fitch, for examination, but we have not yet heard from him on the subject. We notice some remarks on this insect in the July number of the *Southern Planter*. The writer of that article says he has heard that a similar insect appeared a few years since in Dutchess county, N. Y., and appeals to us to know if this is a fact. In reply, we can say we have never seen or heard of the insect in this part of the country. We shall, however, doubtless have all that is known in regard to it from Dr. Fitch, whose observations we hope to receive to accompany Mr. R.'s communication in our next number.

Destructive Insect.—In a late visit to Onondaga and Cayuga counties, we were struck with the appearance of many of the orchards, and in some instances of woodlands, which had been overrun, and the foliage eaten by a species of caterpillar. We learn that this insect prevailed to some extent in the districts named, last year, and that the fruit of some orchards was destroyed by it; but it is a singular fact, that the localities where it appeared most numerously last year, are this year nearly exempt from their ravages—they seem to move on every year, to territory before unoccupied. It is evident, however, that they produce much injury, as the orchards where they prevailed last year, have failed to produce fruit, both that and the present season—the insect having actually destroyed the former crop, and so injured the trees that they were incapable this season of producing fruit. The caterpillar is not particular as to its food, as it devours the leaves of most kinds of deciduous trees which it meets with, such as elm, maple, oak, beech, apple, pear, &c. In some instances it this year devoured all the foliage within its reach, and, taking to the fences and other objects, died in myriads, before it passed into the chrysalis state. In size, the larvæ resembles the common apple-tree caterpillar, and is not unlike the latter in general appearance, though the two are evidently of distinct species. The apple-tree caterpillar congregates in webs or "nests." The other spreads over the whole tree, and does not shelter itself under a web. The larvæ spins a cocoon, and is transformed to a brown moth, with a black head. It is a trifle larger than the common caterpillar moth. The insect is new to us. We hope it will receive attention from entomologists.

The Wheat Crop in Virginia.—Micajah Davis, Esq., of Lynchburg, Va., writes under date of July 8th—"Our farmers have harvested their wheat in fine order, and though the crop is hardly an average in quantity, (much of it having been winter-killed,) it is of very fine quality—probably never surpassed, and rarely equalled. We are now suffering much from want of rain. The oat crop has been much curtailed by drouth, and corn and many vegetables are now suffering intensely."

Crops in Georgia.—Richard A. Benson, Esq. of Macon, Ga., writes under date of June 30th, as follows: "We have had an unusual drouth throughout most of this state, until very recently. We now have copious showers. The oat crop is almost an entire failure—fall oats only succeeding at all. Corn is improving since the rains. The wheat crop is better than in several previous years. Sweet potatoes will be scarce, most of them dying in the 'beds.' Cotton looks small and badly, and the prospect for a crop is gloomy. We never have had more fruit. Water-melons have been in market for several weeks, and peaches and apples are ripening.'?

Rambouillet Sheep.—We have received, too late for this number, a communication from S. W. Jewett, Esq., of Weybridge, Vt, in relation to the French Merino Sheep, of which he has lately made an extensive purchase in France. Mr. J. will, we hope, furnish for this journal, a series of articles embracing his notes of agricultural matters, taken while in Europe.

The Potato Disease.—We tender our thanks to Hon. John W. Proctor, Danvers, Mass., for a communication enclosing a letter from Prof. T. W. Harris, of Harvard College, in relation to insects which attack the potato. Prof. H.'s remarks are very interesting, and show clearly that (as we have always maintained,) the potato disease has no connection with insects. We regret that the article did not reach us in time for this number. It will be given in our next.

Downing's Seedling Rhubarb.—In the proper season for using this plant, we received from Mr. James Wilson, of this city, a specimen of this variety, orginally grown from seed by Mr. Charles Downing, of Newburgh, N. Y. We think it superior to any kind we have ever seen. In color and texture it resembles the Early Red, but is far more productive than that variety, while it is fully equal, or perhaps better, in quality.

Correction.—In our June number, (page 212,) we gave a paragraph in reference to the growth of a pear tree, in the garden of Linus Cone, of Oakland county, Michigan—the statement there made having been communicated to the *Michigan Farmer*. We have received a letter from Mr. Cone, correcting a mistake in the article. The word "diameter" which occurs in reference to the size of the tree, should have been *circumference*.

Do Toads Eat Stawberries?—According to the "official" report of a late discussion by the "American Institute Farmers' Club," given in the New-York *Mirror*, Prof. J. J. Mapes said, "Toads are very fond of Strawberries, and select the best for their own eating." This, as is said of other things sometimes found in print, is "very important *if true*." Toads have often been spoken of as useful in gardens, on account of their destroying insects, and being, besides, entirely harmless to vegetation. The singular trait which Prof. M. attributes to them is new, and as his statement may have the effect to banish these useful little animals from grounds where they have heretofore been admitted, we take the liberty of offering in their favor the plea of "not guilty," to the above charge. The only authority to which it is convenient to refer at this time, is Dr. De Kay. In the *Natural History of New-York*, he says of the "Common American Toad"—"We must not overlook its value in diminishing the number of noxious insects. * * * It is a timid, inoffensive animal, and has even been domesticated. * * * They live upon insects, earth-worms, &c., which they always seize when in motion, refusing to touch any dead food."

Seedling Apple.—Mr. Wm. Wilson, of West Milton, Saratoga county, has left with us a specimen of an apple which originated on his farm—the original tree having died five or six years ago. It is a small-sized, fair apple, evidently a long-keeper—the specimens being perfectly sound on the first of July; but it is not of superior quality, from its want of juiciness and flavor.

Devon Cattle for Massachusetts.—Three Devon heifers, designed for Hon. B. V. French, of Braintree, Mass., lately passed through this city. One was two years old, and the others were yearlings—the former bred by H. N. Washbon, the latter by James Blackman, Butternuts, Otsego county, N. Y. They are decidedly fine animals, and will be a valuable addition to Mr. French's herd, which before comprised some very superior Devons, formerly procured by the officers of the Massachusetts Society for Promoting Agriculture, from the celebrated herd of the Earl of Leicester.

Materials for Manure.—August is usually the driest month of the year, and consequently most favorable to the reclamation of wet lands, and to the excavation of "muck" for manure. Every farmer should provide subtances of some kind for absorbing the liquids of his stables and yards. Straw, or litter of any kind will answer for this purpose, but all farms do not afford this material in sufficient quantity. We have often recommended the use of muck, or peaty earth, for this purpose, but the neglect of this substance—either from a want of a knowledge of its value, or some other cause—induces a repetition of the suggestion. Muck varies greatly in value, but all is more or less valuable—especially as an absorbent of urine. It is, in many instances, a good manure of itself. The deposits of small swamps, usually covered with ash trees, surrounded by high lands, are often of this character. The muck contains less acid than that commonly found in swamps where evergreens grow. We have lately heard the testimony of some of the best farmers in Columbia county, N. Y., to the effect that a compost made of equal parts of muck from an ash and elm swamp, with barn-yard or stable manure, would produce greater effects, and better crops, for any length of time, than an equal quantity of clear manure. We will not pretend to say what is the principle contained in this substance, which produces these effects—whether it is the carbon which is ultimately combined with oxygen, and forms carbonic acid, and thus feeds the crops, or any other cause, is of secondary consequence to the farmer, so long as the effects are produced—and of these there is no doubt.

Keep up the War against Weeds.—The war which all farmers should wage against weeds, should be one of extermination. Hence it should be continued to so late a period in the season that there can be no chance for them to form seeds. If they grow so much among crops that they cannot be dug up, or pulled up, cut them off before the seed matures. The more closely this labor is followed up, the lighter will the labor be, year after year, and the better will be the crops, from not being injured by their enemies. It will pay well to mow stubble fields in autumn. Sometimes the herbage which is obtained will afford a very good fodder for winter, as a change either for cattle or sheep. The bitter plants which frequently constitute a great part of the growth, serve as condiments to assist digestion and promote the appetite. Packed away with straw in alternate layers, they will not spoil by heating, and will impart a relish to the straw. But the greatest advantage of cutting the weeds which grow in stubble, is to prevent them from seeding the ground, and to clear them off out of the way of the crop of grass or clover the next year. A horse-rake can be used to gather the crop.

Drain Tiles.—By Messrs. Babcock & Co.'s advertisement it will be seen that he is now making tiles on an extensive scale, and we trust they will be able to supply the great and increasing demand for them. We are informed that many persons who have not used tiles for draining, have an idea that it is necessary to connect the ends by passing one tile into another. This is not at all necessary. The following are the directions which Messrs. B. & Co. give, and which may be safely followed: "The ditch should be formed wedge-shaped, and dug from 2½ to 3 feet deep, and should be smooth on the bottom, with a proper descent. The tiles are simply placed end to end; wedged a little on the sides, if necessary, to keep them in line; the top of the joints covered with a sod, *turned grass side down:* if sods are not at hand, use shavings or straw for a covering. Water will find its way through the joints: experience will prove that you can not keep it out. In wet lands lay the drains 25 feet apart; other locations, from 30 to 50 feet. On soft bottoms, lay under the Tile a narrow board, and fill up the ditch with earth."

ANSWERS TO INQUIRIES.

Best Climbing Rose.—H. B. D., Middletown, Ct. The Queen of the Prairie and Baltimore Belle, will be found preferable. They may be set either in autumn or spring.

Lice on Cattle.—Young Farmer. Unguentum, a preparation of mercury, is most effectual in destroying vermin on cattle, but it is not a safe remedy to be applied to stock running at large, because if they get wet under its operation, it is liable to produce salivation and weakness of the limbs, &c. Oil, or any kind of grease, will kill the vermin, so far as it comes in actual contact with them. Tobacco decoction will also kill them, but is liable to sicken and weaken the stock for a while. Everything considered, whale oil, is perhaps, the best application. It should be put on those parts of the body where the vermin attach themselves in the greatest numbers.

Scouring in Calves.—The cause of this disease is often indigestion—dyspepsia. In its early stage it may generally be cured by chalk—allowing the animal to lick from a lump whatever it chooses. If the attack continue, give castor-oil, in doses equal to those usually administered for adult persons. This will cleanse the intestines, and in most cases will check the disease.

Agricultural Books.—Norton's "Elements," and most of the Agricultural Books advertised in the Cultivator, can be had at this office.

Weakness of the Spine in Pigs.—A Subscriber, Berks county, Pa. Weakness of the spine is sometimes an indication of weakness of constitution, and is often very prominent in animals which have been bred from parents having this tendency. It is a serious defect, and should either be corrected in the stock in which it appears, by a "strong cross," or the stock should be given up altogether. There is, however, a weakness of the back which is different from this, and is caused by what is called the "kidney-worm." The animal drags its posterior parts, as you describe. The best remedy we have known, is to feed with corn soaked in lye of wood ashes.

NEW PUBLICATIONS.

Harper's new Monthly Magazine.—The number of this magazine for July, is particularly rich and excellent both in its illustrations and matter. It opens with an article on "Our National Anniversary," by B. J. Lossing, embellished with beautifully engraved portraits of the Revolutionary Fathers, with brief sketches of their characters, a copy of the Declaration of Independence, and fac-similies of the original signatures. Next we have an article on life-boats and life-cars, by Jacob Abbott, with eleven excellent illustrations. There are also many other interesting and valuable articles in the number—particularly one on the Eclipses of the month of July, 1851, by Charles Colby, of the Cambridge Observatory,—and those on the Solar System, Somnambulism, &c. Published by Harper & Brothers, 82 Cliff street, New-York.

Pictorial Field Book of the Revolution.—Nos. 14 and 15 of this excellent work have been received. The former comprises principally historical incidents connected with the State of Rhode-Island and its vicinity. Its illustrations are of a highly interesting character, and, as usual, are executed in the finest style. Among them is the Old Tower at Newport, Head Quarters of the British General Prescott, Scene of the Battle on Rhode-Island, in 1778, Portrait and Sign-manual of King Philip, Gen. Washington's Head Quarters at Newburgh, &c. No. 15 brings down the history to the capture of Andre. This number abounds with fine illustrations representing various points of interest on the Hudson, especially the old fortifications at West Point and vicinity, some of which are among the best the work has contained. This work ought to be in every family in the United States. The author is Benson J. Lossing, and the publishers are Harper & Brothers, New-York. It will be completed in about twenty numbers, which are sold at 25 cents each.

Albany Prices Current.

Albany, July 15.

Flour.—We have had a better demand for flour during the month, and prices of most descriptions can be quoted 12½a25c. higher, induced mainly by an increased shipping demand, and an active speculative movement. Advices from the Western and Southwestern States in reference to the harvest, for all descriptions of grain are very favorable; in Ohio, Indiana, Illinois, Iowa, Michigan and North Missouri our accounts agree in stating that the crops of wheat and corn are exceedingly promising for both quality and quantity. An increased breadth of land has been seeded, and the harvest this year will undoubtedly exceed that of any preceding one—and this comes in the face of low prices. The sales of the month add up 38,000 to 40,000 bls., closing at $3.75a$4 for common Western and inferior State; $4a$4.25 for good State and Michigan, Indiana and Wisconsin; $4.25a$4.31¼ for Ohio; $4.37½a$4.50 for Genesee; $4.50a$4.62½ for extra O.; $4.62½a$4 87½ for fancy Gen. and $5a$5.25 for extra Gen. Corn meal is in steady demand at $1.18¾c. per cwt. in bags. Liverpool dates of July 1st, received by the Franklin, state that the fine weather had caused a complete stagnation in the flour market and sales would have been made, had buyers appeared, at a decline of 2s. per brl. on American, and 1s. per sack on French flour. The receipts of flour at tide water continue largely in excess of the receipts to the corresponding period last year.

GRAIN.—The sales of wheat during the month aggregate 20,000 bushels, at prices which show a gradually declining market; we quote Genesee 106a112½ for ordinary to prime, Ohio 94a96, and Michigan 98a104c. nominally. Some samples of new Southern wheat were shown on 'Change on 1st. inst.; they were from Petersburgh, Va.; the berry was well filled and plump. Rye has been in limited supply, with sales 6000 bushels, in lots at 70½a72c.

The sales of oats are large; about 70,000 bushels have been taken since our last, at figures which show a decline on previous quotations, owing to the large receipts of Western; we quote 41a42c. for good Western, Canadian, and Canal. The transactions in corn during the month have been large; upwards of 270,000 bushels have been sold; quotations have been somewhat variable, but the market closes full as well as it was a month ago; we quote 54a54½ for sound parcels of Western mixed, and 56 for Yellow round which is in limited supply; there is no round white offering. Heated and damaged parcels which arrive freely, sell at 48a50c. The Liverpool advices to the 1st quote corn a decline of 1s. per quarter, and wheat 2d.a3d. per bushel of 70 lbs.

WHISKEY.—The market has been steadily maintained; sales 700 bls. Ohio and S. P., at 23½a23¾ for Ohio, and 23¾a24 for S. P.; closing at 23¾a24c. for Ohio and S. P.

PROVISIONS.—The retail demand is steady and quotations are unchanged; we quote new mess pork $15a15.50, do. prime $13. Beef, mess $10a10,50, and $5a6 for prime. Hams, 8½a10c. for smoked, and 7a7½c. for shoulders; in pickle, hams 7a8c. and shoulders 6a6½c. Lard 9a10c. Butter 12a14c. for new State. Cheese 5a7c.

HOPS.—Some sales of the growth of 1848 and 1849 have been made for brewing at 25c. for the former, and 30c. for the latter.

PLASTER.—Nova Scotia is down to $2.50 with a good supply and sales 700 to 800 tons.

WOOL.—The market here has not opened yet; the only sale we have to notice is 8000 lbs. coarse fleece at 36c.

FEED.—We have but little to notice; the sales are about 30,000 bushels, at 14c. for shorts, 17a24c. for second quality and 100a106ct for middlings. There have been no sales of moment within the last 10 days.

SALT is in fair demand at 106¼ for brls. at 10½ for bags.

Superior Seed Wheat.

A LARGE assortment of the best varieties of Improved Seed Wheat for sale, among which are the Golden Australian, China or Troye, White Flint, Hutchinson's Improved, Soule and Mediterranean.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York.

SEED RYE.

RYE of the best winter variety; also a cheaper kind suitable for late fall and early spring pastures.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York.

Improved Turnep Seed.

STRAP-LEAVED, Red-top, Flat, Norfolk, Long Tankard, Yellow Stone, Aberdeen, and several other of the most approved kinds of turnep seed, just received fresh from England.

A. B. ALLEN & CO.,
Aug. 1—1t. 189 and 191 Water street, New-York

Mediterranean Wheat.

THE reputation this wheat has obtained for a few years past, has put it beyond doubt, that it is the very best variety for our climate and soil—being so early, it *entirely* escapes the ravages of the Fly. We have now a choice lot on hand, and offer for sale, at the Albany Agricultural Warehouse and Seedstore, 369 & 371 Broadway, Albany.

EMERY & CO.

State Agricultural Warehouse.

THE subscrber would respectfully invite the attention of Farmers and Planters to his varied assortment of Agricultural and Horticultural Implements, among which may be found Prouty & Mear's celebrated and highly approved Center Draught Plows; Emery & Co.'s Improved Railroad Horse Power and Thresher, all of which took the first premiums at the late State Agricultural Fair, and are unequalled by any now in use; together with the latest and most improved *Plows, Straw Cutters, Fanning Mills, Corn Shellers, Seed Sowers, Caltivators, Harrows, &c. &c.*, which I well sell at as low rates as any similar establishment in the United States.

I shall at all times have on hand a full stock of Field and Garden Seeds, Guano, and all other Fertilizers in the market, which may be had on the most reasonable terms.

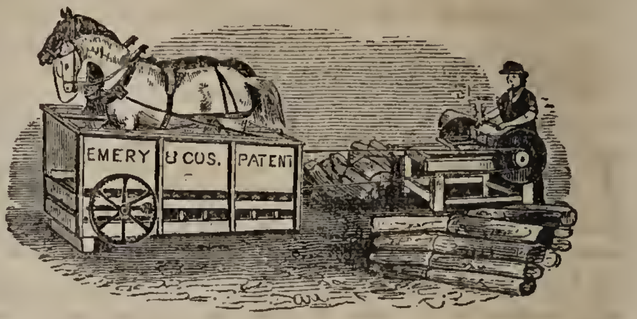
Persons purchasing articles from me may rely upon their giving satisfaction, as I intend keeping only such as I can fully warrant.

G. H. BARR,
Aug. 1—1t. No. 25 Cliff street, New-York.

Patent Wire Fence

FOR farms and division fences, with Iron posts—price, from $1.50 to $1.75 per rod. This fence has none of the objections urged against long panels of fence, these being only 12 feet each, and rods of one-quarter inch diameter. Also Ornamental Iron Railings, from 30 cents to $2 per foot.

EMERY & CO., 369 & 371 Broadway, Albany, N. Y. Aug. 1.



EMERY & CO.'S
New-York State Society's First Premium
RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side. with all the tread powers known, of any note in the country, and been preferred.

The Chairman of the Agricultural Society's Committee on Horse-Powers, in a communication written several months after the awarding of premium to the above Horse-Power, says: "I spent much time at the late State Fair. (Sept. 1850,) at Albany, in examining the various Horse-Powers, viz. Wheeler's, Allen's, Ham's, and Emery & Co.'s, first with the owners and makers, and heard all they could say, and again in their absence—and the result most fully convinced me that yours was the best, and if I wanted one, I would give TWENTY DOLLARS more for yours than any others on the grounds; and as you have won the laurels fairly, it is just that you should recieve a full reward."

He further says—"You know from experience that I have no sort of partiality for your establishment, and as a committee-man of said Society for years, I have decided against you oftener than for you; and if others have a better article than you, I would decide in their favor, if the decision rained your establishment, and vice versa, hurt who it may.

With the testimony of such men as the author of the foregoing, which, together with the changeable gearing, and other important improvements adopted since last season. make it the most Convenient, Durable, Efficient, and Economical Horse-Power now made; and the public may rest assured of being furnished by us with a superior machine.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of the materials and wormanship; we have now so extended our facilities as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats, per day.

The price for Emery & Co.'s one Horse Power,...	$80.00	
do do Threshers and Separator,.	35.00	
do Bands, wrench, oiler and extra pieces,....	5.00	—$120.00
do Two Horse Power,......................	110.00	
do do Thresher and Separator,......	35.00	
do Bands, oiler, wrench, &c.,...............	5.00	—$150.00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,....................................		$75.00
do Saw Mill, complete for use,..............		35.00
Price of Grant's Fan Mills, adapted for hand or power from,....................................		$22.00 to 28.00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, (or made and sold by any other manufacturer,) which we sell with a full guarantee of the right of using the same in any territory of the United States, for the following prices:

One Horse Power,..............................	$75.00
Two Horse Power,..............................	100 00

All the above are subject to the warranty of three months use and trial, and if not satisfactory may be returned and full purchase money refunded.

Those wishing to procure EMERY & Co.'s latest Improved Premium Horse Power and Machine, will observe that their *name* is cast on *every link of chain* and *band wheel Hub*—none others are genuine.

For further particulars, prices, &c., see Catalogue of Albany Agricultural Warehouse, furnished gratis. EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, Nos. 369 and 371 Broadway Albany, New-York. August, 1851.

ELLWANGER & BARRY,

Mount Hope Garden and Nurseries, Rochester, N. Y.,

WILL publish on first of August, *a new wholesale price Catalogue*, for fall of 1851, which will offer unusual inducements to purchasers of Nursery Stock in large quantities. Every person who intends purchasing in the ensuing fall, will find it to their advantage, (previous to sending their orders elsewhere) to be in possession of one of these catalogues, which will be furnished gratis to all post-paid applications or at the office.

Rochester, N. Y., Aug. 1, 1851—2t.

Australia Golden Wheat.

THE largest and most productive wheat in the world. The subscribers are now prepared to furnish farmers and others, interested in the growth of this splendid and valuable wheat, in large or small quantities, at the lowest market price. This wheat has been cultivated on Long Island for the last two years with perfect success, and yields at least one-third more to the acre than any of the ordinary varieties. Farmers and seedsmen wishing to procure this wheat, will please send in their orders in time as the supply is limited. Specimens of the growth of this wheat can be seen at the store of the subscribers. In addition to the above we have for sale a large stock of all the varieties of Grass, Field and Garden Seeds.

JOHN MAYHER & CO.,
Aug. 1—1t. No. 197 Water street, New-York.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va.

R. H. ARMISTEAD,
Aug. 1—3t. Executor and Com.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

Chapin's New Portable Cider Mill.

THE demand for these machines, previous to the present improvement, has been even more than sufficient; and an increase is not desired, unless it can be earlier in the season.

All applications for Mills should be made before the first of September, or they will fall among a large number, some of which cannot be supplied in season for operation.

The present form of these machines, both large and small, by last fall's operations, have proved themselves much more practical than before the improvement. They are destined to an extensive patronage. Under ordinary circumstances, but one horse is required to operate or draw the large mill. With the help of two men and a horse, they go into the orchard and turn out from 12 to 16 barrels of cider per day.

PRICE, 125 dollars with waggon wheels and thills—100 dollars without.

The Mills may be delivered without wheels and thills, and be furnished at their place of destination.

Two men may operate one of the hand Mills, and make from 4 to 6 barrels of cider per day. About one barrel is made at each pressing. Price 40 dollars, with an individual right of using.

RAPELJE & Co., Rochester, N. Y.
A. PATCHIN, Westfield, N. Y.
GEORGE C. COOLEY, Canandaigua, N. Y.
H. SPAULDING, Syracuse, N. Y.
Manufacturing Agents.

NATHAN CHAPIN, Patentee and Manufacturer, No. 105 West Water-street, Syracuse, N. Y. Aug. 1, 1851—1t.*

Fruit and Ornamental Trees, &c.

THE subscribers solicit the attention of Nurserymen, Orchardists, and Amateurs, to their present large and fine stock of Nursery articles.

Standard Fruit Trees for Orchards—Thrifty, well grown and handsome, of all the best varieties.

Dwarf Trees for Gardens—The largest stock in the country, and the most complete.

Dwarf Pear Trees—Our collection consists of well known leading varieties, and numbers more than 150,000 saleable trees. The superiority of these, being grown in this country, over imported trees, is well known to every intelligent cultivator. Nothing in fact in this country, can equal our collection of Pear Trees; they can be had from one to four years growth, some of which are now covered with fruit.

Dwarf Apple Trees—We cultivate in large quantities, the best and handsomest varieties of Apples on Doucain and Paradise stocks, for Dwarf and Pyramids, and can furnish them in large quantities from one to two years growth.

Dwarf Cherry Trees—All the leading varieties are cultivated, on Mahaleb stocks, extensively. We can furnish by hundred and thousand, from one to two years growth.

Cherry Currant—The largest variety known. Upwards of 1000 plants on hand.

English Gooseberries—All the best sorts.

Large Fruited Monthly Raspberry, that gives a crop of fine Fruit in the Autumn.

Strawberries—All the best sorts.

Ornamental Shade Trees—Of good size for Streets, Parks, &c., large and well grown.

Choice Trees and Shrubs, for lawns and pleasure grounds, including all the finest new and rare articles recently introduced.

Hardy Evergreen Tress—Norway, Spruce and Balsam Fir, of small size in large quantities, and a moderate supply of large ones, besides nearly *Fifty new and rare Evergreens*, including Deodar Cedar, Cedar of Lebanon, Chili Pine, Cryptomeria or Japan Cedar, Himalayan Spruce, &c. &c.

Roses, Pæonies—A large and complete collection, including the finest novelties.

Phloxes—A collection of upwards of 60 varieties, including 30 new varieties imported last spring.

Dahlias—Upwards of 100 select varieties, including the finest English prize flowers of 1849 and 1850.

The following catalogues, giving full information as regards terms, prices, &c. will be sent gratis, to all who apply by post-paid letters, or at the office:

1st. A general descriptive catalogue.
2d. A wholsale catalogue.
3d. Catalogue of Select Green-House Plants.
4th. A special catalogue of Dahlias and Bedding Plants for 1851

ELLWANGER & BARRY,
Mount Hope Garden and Nurseries, Rochester, N. Y.
August 1, 1851—2t.

Bickford & Hoffman's Grain Drill.

THIS drill is made and sold by the subscribers, at Macedon, Wayne Co., N. Y. Of the large number which they have sold, not one has failed to give satisfaction. Decisive testimonials can be furnished from a great number of our best and most eminent farmers, that this drill is *more perfect as a whole* than any other of the many good ones which have been used in the country.

Since last year, we have added an IRON CASING to the *gear work*, to guard against the possibility of accident; the drill tubes are disposed alternately in parallel rows, sowing the grain in rows seven inches apart, and greatly facilitating the passage of the drill tubes among stones and clods. They sow with perfect evenness, whether on a level or ascending or descending a hill. Every part is made of the very best materials, and with great neatness and durability.

☞ *Of the great number sold, not one has been returned, although each is warranted to sow all kinds of grain with accuracy and with satisfaction to the purchaser.* ☜ Subject to this warrant, we respectfully invite a free and full trial of the merits of this implement.

For an editorial notice and figure of this drill, see the June number of the Cultivator for this year, p. 209.

PRICES—$65 for 7-tube drill; $75 for 9-tube drill, and $85 for 11-tube drill. All orders addressed to the subscribers, at Macedon, Wayne Co., N. Y., thankfully received and promptly attented to, and shipments made at canal or railroad. BICKFORD & HOFFMAN.

Macedon, Aug. 1, 1851—2t.

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.

June 1—4t. G. H. BARR.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.
Bone Dust, Sawings, Shavings, and Crushed, at $2.25 per bbl.
Bone Black, or Burnt Bones, at $3 per hogshead.
Bone Waste, or Bone Manure, at 1¼ cents per lb.
Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.
Sulphate of Soda at 1 cents per lb; packages included at the above prices. For sale at the State Agricultural Warehouse

June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Dixon and Kerr's Poultry Book.

JUST Published, a treatise on the history and Management of Ornamental and Domestic Poultry. By Rev. Edmund Saul Dixon, A. M., with large additions, by J. J. Kerr, M. D. Illustrated with sixty-five portraits, from nature, engraved expressly for this work.

CONTENTS.

The Domestic Fowl.
The Rearing and Management of Fowls.
Eggs—their Color, Form, and Sex.
Eggs—their Preservation for Culinary Purposes.
Eggs—their Preservation for Incubation.
Varieties of the Shanghae Fowl.
The Cochin China Fowl.
Burnham's Importation of Cochin China Fowls.
The Malay Fowls, sometimes (though erroneously) called Chittagong.
The Pheasant—Malay Fowl.
The Guelderland Fowl.
The Dorking Fowl—Colored Dorkings.
The Spanish Fowl.
The Game Fowl—The Mexican Hen Cock Game Fowl.
The Chittagongs, The Java, The Shakebag, and the Jersey Blue Fowls.
The Poland or Polish Fowl.
The Spangled Hamburghs—The Bolton Grays or Creole Fowls.
The Rumpless Fowl, the Silky and Negro Fowls, the Frizzled or Friesland Fowl, the Cuckoo Fowl, the Blue Dun Fowl, and the Lark-crested Fowl.
The Smooth-legged Bantam.
The Dung-hill Fowl, the Dominique Fowl, Colonel Jacques' Chicken Coop, Devereux's Method of Rearing Chickens without a Mother, and Cope's Letter on Early Chickens.
Caponizing Fowls.
The Pea Fowl.
The Ring-necked Pheasant.
The Turkey.
The Guinea Fowl.
The Mute Swan (Cygnus Olor.)
The Wild or Canada Goose.
The Domestic Goose.
The Hong Hong or China Goose.
The Bremen Goose.
The White-fronted or Laughing Goose.
The White China Goose.
The Bernicle Goose—The Brent Goose.
The Tame Duck.

This work is well bound in muslin and is printed on the finest paper. The illustrations are engraved in the most elegant manner, from original and accurate drawings, and the whole is comprised in one volume of 480 pages duodecimo, price $1. A few copies have been colored after nature. Price for the colored copies, $2.50. For sale by all Booksellers, and by the Publishers,

E. H. BUTLER & CO.,
Aug. 1—1t.* 23 Minor street, Philadelphia.

Situation Wanted,

AS FARM SUPERINTENDENT, by a young single man, well qualified not only for out-door arrangements, particularly with reference to the breeding and management of Choice Stock, but also to keep the book accounts connected therewith. For further information address L. G. MORRIS, of Mount Fordham, Westchester Co., N. Y., who will furnish satisfactory recommendations. Aug. 1—1t.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton, Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square, Boston*, will be promptly executed. Boston, Aug. 1, 1851—12t.

FOR SALE.

GIFFORD MORGAN, a very superior stallion colt, of a beautiful dapple bay color, sired by Gen. Gifford, g. s. Gifford Morgan. Age 3 years on the 26th August next; weighed 900 lbs. June 6, gaining 60 lbs. from 12th March, and measures 14½ hands, gaining one inch from March 12th. In spirit, figure, and activity, closely patterns after his sire, and promises to fully equal his sire.

His dam is bay, Morgan built, and it is believed can trot 100 miles with any other of her age.

Or I will sell Z. TAYLOR, a bay entire horse colt, same sire and dam, 1 year old June 8, 1851; or the above named breeding mare, in foal by Gen. Gifford. Either two of the three, which if not previously disposed of, will be exhibited at the next New-York State Fair at Rochester. See Genesee Farmer for Feb. p. 63, for notices of Gen. Gifford, now conceded to be the best living entire Morgan horse, (and for which large offers have been made to take back to Vermont,) see also Albany Cultivator for 1846, p. 286, 319, 342, 355; do. for 1847, p. 258. J. DORR.

Scottsville, Monroe Co., N. Y., Aug. 1, 1851—1t.

WEBSTER'S DICTIONARY.

THE ENTIRE WORK, UNABRIDGED,

In One Volume, Crown Quarto, of 1452 Pages.

☞ Containing THREE TIMES the matter found in any other English Dictionary compiled in this country, or any abridgment of this work, and yet "Its definitions are models of *Condensation* and *Purity*."—Hon. W. B. Calhoun.

PUBLISHED BY

G. & C. Merriam, Springfield, Mass.,

And sold by Booksellers in New York, Boston, Philadelphia, Baltimore, Washington, Charleston, Mobile, N. Orleans, St. Louis, Cincinnati, Louisville, Pittsburgh, Chicago, Detroit, Buffalo, Rochester, Albany, Troy, Burlington, Portland, and through the country.

TESTIMONIALS.

"I find it an invaluable *vade mecum*."

Washington Irving

"Etymological part *surpasses anything that has been done for the English Language*."

George Bancroft

"*Every scholar* knows its value."

Wm. H. Prescott

"A very valuable work—a NECESSITY TO EVERY EDUCATED MAN."

Lord Brougham

"The most ACCURATE and RELIABLE Dictionary of the Language."

Theo. Frelinghuysen

"AGES WILL ELAPSE before any other Dictionary of the Language will be required."

Thomas Dick

LL.D. of Scotland, author of "Christian Philosopher," &c.

"Its reputation is *widely extended*. I doubt not this edition has received essential improvements from the able hands it has passed through."

Jared Sparks

"BEST DEFINING DICTIONARY in the English Language."

Horace Mann

"ACCURATE and RELIABLE in giving a just exhibition of the Language."

Robt. C. Winthrop

DRAIN TILE WORKS, ALBANY.

60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

Farm in the Genesee Valley for Sale.

THE subscriber offers for sale his Farm of 212¼ acres, situated in the town of Avon, Livingston county, N. Y., and formerly known as the Tompkins farm.

On the premises there is a new dwelling house, in the Ornamental English Cottage style. The grounds are tastefully laid out with gravel walks and planted with shrubbery. The gardens contain choice varieties of peaches, grapes, &c., and the orchards the best grafted fruit. Attached are a carriage and ice house, barns and tenants houses. The farm is acknowledged to be one of the finest wheat farms in Western New-York.

It has been for years under the most careful and judicious cultivation—is highly improved and in a perfect state of repair. There are about 40 acres of woodland with superior timber.

The Buffalo and Conhocton Railroad now in progress passes thro' the town. The Genesee Telegraph line has an office in the place. The farm is distant about 3 miles from the Avon Sulphur Springs. This place offers inducements to purchasers. For further particulars apply to HENRY L. YOUNG, Avon, N. Y.

July 1—tf.

Full Blood Devon Stock for Sale.

THE subscriber will dispose of 10 or 12 head of his pure Devon Stock, consisting of Cows, Yearling Heifers, Bull and Heifer Calves, and one Bull two years old. This stock was derived principally from the herds of R. L. Colt, Esq., of New-Jersey, and Geo. Patterson, Esq., of Maryland. The Cows are excellent milkers, and the Yearling Heifers and Young Stock, are very beautiful animals.

The two year old bull was got by Rover, a Full Blood from the stock of Lewis F. Allen. Dam, Ellen, a Prize Cow from the stock of Mr. Colt. ROVER was by the Imported Bull ECLIPSE.

I will also sell my fine MORGAN STALLION YOUNG GIFFORD, four years old this spring; a colt of the Old Gifford Morgan, his dam a Morgan Mare. Also a fine Morgan Mare by the same Horse, and same age—her Dam by Morgan Eagle, Grand Dam by the original Justin Morgan Horse. MORGAN EAGLE was got by old WOODBURY MORGAN, well known as the sire of the Old Gifford. The Mare has a foal by her side by the above Horse.

Both of these animals are fine and very promising, and among the the very best specimens of this distinguished breed. For terms, &c., address "post-paid," WM. L. COWLES.

Farmington, Ct., July 1—2t.

LANDS ON LONG ISLAND,

ADJOINGING the Villages of Lakeland and Hermanville, about 45 miles from the cities of New-York and Brooklyn, by the Long Island Railroad. The opportunity is now offered to all those who ever wish to obtain land on Long Island, the ancient "Garden of America," that will probably never occur again, for these lands are the only remaining new lands on the Island, and are equal in quality, when cultivated, to any other land.

The results of cultivation on these Island lands have been so great, so much beyond the expectations of any one, that they are now considered of great value for farms and gardens, and will, in all probability, be all taken up for settlement and occupation, or be held at more than five times their present price. All kinds of produce may now be seen growing there, such as wheat, rye, corn, potatoes, and garden vegetables, with fruits and flowers, in the most luxuriant growth, where but a short time since, the land was covered with trees and bushes.

The surface of the ground is perfectly beautiful, free from stone, bogs or marshes, and the climate as healthy as can be found in this latitude. The soil is a fine loam, admirably adapted to high cultivation and great crops, and of easy tillage.

Indeed no New-England or Northern New-York man can form any adequate idea of the difference in the labor and strength requisite to cultivate these Island lands, and that required to subdue their own rugged lands, until he has seen or made the trial; and I now offer for sale as handsome land, and intrinsically as valuable, as can be found within fifty miles of the city of New-York, in any direction, in lots of five acres or more, for the sum of $25 per acre.

Any person wishing to purchase a five acre lot of good and handsome land, without one foot of water or useless ground on it, can do so by sending $10 as a first payment, and the further sum of $10 a month until half is paid, when warrantee deed and good title will be given, and the remainder part of the purchase money may be paid or secured on the land, to be paid within three or five years with 6 per cent yearly interest. Larger lots will be sold on the same terms.

The title is perfectly good—I have a history or deduction of the title complete—certified to by legal men of the highest character, I will send by mail, with maps, pamphlets, and all information, to all purchasers, or those who wish to be informed of these Island lands, by applying to CHARLES WOOD, Stationer 117 John street, New-York. July 1—2t.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, PROFESSOR OF SCIENTIFIC AGRICULTURE.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. JOHN P. NORTON, New-Haven, Conn. June 1, 1851—8t.

Youatt's Great Work on the Horse.

Sent by Mail, post-paid.

NOW ready, a new edition of "Youatt on the Ssructure and Diseases of the Horse, with their Remedies," also practical rules to buyers, breeders, breakers, &c., brought down to 1849 by W. C. Spooner, the celebrated English Veterinary Surgeon, to which is prefixed an account of the breeds in the U. S., by H. S. Randall, Esq., with 55 illustrations—price $1,50, on receipt of which post-paid (if mailed in presence of P. M., at our risk,) we will forward the work, postage paid to any P. O. in the U. States. Address, post-paid,

July 1—3t. DERBY & MILLER, Auburn, N. Y.

Best Fruit Book.

Sent by Mail free of postage.

J. J. THOMAS' American Fruit Culturist, with 300 illustrations, new (6th) Edition just published, price $1.00, on receipt of which post-paid, we will forward a copy by mail, to any P. O. in the United States, free of postage. Address

July 1—3t. DERBY & MILLER, Auburn, N. Y.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are now prepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot	in length,	per thousand,	$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

Stock and Dairy Farm For Sale.

THE subscriber offers for sale his farm, in Windsor, Broome co., four miles from the Erie Railroad, and eight miles from Binghamton.

It consists of 400 acres, 300 of which are improved, with a dwelling house, barn, sheds, and a Pine Apple Cheese manufacturing establishment thereon. The land is of excellent quality for grazing or grain growing, and will be sold together or divided, at an inviting price, with or without the stock.

Applicants may call on M. Hawley, James S. Hawley, or A. Doubleday, Binghamton, for price, &c. ELI PRENTICE.

Chenango, July 1—2t.*

Contents of this Number.

Wheat Culture in Ohio, by W. G. Edmundson, ... 257
A Sketch of the late Judge Hayes, by Hon. F. Holbrook, ... 260
County Agricultural Institutes, by S. W. Johnson, ... 263
Protection against the Curculio, ... 265
On Breeding Horses, ... 266
The Best Cherries—Long-keeping Apples, ... 267
Fruit-drying Apparatus—Horticultural Memoranda, ... 268
The Curculio—Causes of Failure, by David Thomas—The Curl in Peach Trees, by E. S.—The Large Flowered Bignonia, ... 269
Notes on Strawberries—Late Apples at the West, ... 270
Blackhall's Steamed Bone Manure, by Prof. J. P. Norton, .. 270
Notes of a Tour in Europe, by W. R. Sanford, ... 273
Sales of Live Stock by Mr. Morris and Mr. Vail, ... 275
Wrong Management, by A Youth, ... 276
Stage for Cutting Plants for Hay—The Seventeen-Years Locust, ... 277
Col. Sherwood's Stock—Agricultural Publications, by Linus Cone, ... 278
Chapin's Portable Cider Mill—Letter from B. P. Johnson, ... 279
Patent Office Report—Cattle Shows and Fairs this Autumn—Rates of Postage under the new Law, ... 281
Notes for the Month—To Correspondents, &c., ... 282

ILLUSTRATIONS.

Short-horn Bull, Earl of Seaham, ... 272
A Silesian Merino Ewe, ... 273
Mr. Chapin's Portable Cider Mill, ... 279

Silliman's American Journal of Science and Art.

THIS Journal of established reputation, is issued at New-Haven, Ct., every two months, in numbers of 152 pages each, under the editorial labors of Professors Silliman, Silliman, jr., and J. D. Dana. It forms two volumes a year; price per year $5.

Each number contains original papers on Scientific subjects, besides full abstracts of new discoveries in science from foreign journals.

The number for July (beginning vol. XII, 2nd series,) contains memoirs on Coral Islands,—on the Volcano of Hawaii,—on the liquid nature of Saturn's ring,—on microscopes—atmospheric magnetism—and numerous other topics of interest. Address proprietors, Silliman & Dana, New-Haven, Ct. Aug. 1—tf.

THE WATER CURE JOURNAL.

A NEW Volume of this "Journal of Health" commences in July, 1851. Subscribers should send in their names at once. The Philosophy and Practice of Hydropathy, Physiology and Anatomy of the Human Body, Dietetics, Physical Education, the Chemistry of Life, and all other matters relating to Life, Health, and Happiness, will be given in this Journal. We believe that man may prolong his life much beyond the number of years usually attained. We propose to show how. Published monthly, at One Dollar a year, in advance. Please address all letters, post-paid, to

FOWLERS & WELLS,
Aug. 1—2t. 131 Nassau street, New-York.

GREAT PREMIUM BOOK.

STEPHEN'S BOOK OF THE FARM.

A Complete Guide to the Farmer.

A NEW and complete edition, revised and adapted to the use of Farmers in the United States, by

J. S. SKINNER.

This Book contains about 1200 pages, and embraces
EVERY SUBJECT OF IMPORTANCE,
connected with Agriculture in all its branches, with nearly
FIVE HUNDRED ILLUSTRATIONS
on wood and steel, making it one of the most attractive and
USEFUL BOOKS
yet offered to the Farmers in this country. Showing the best methods for acquiring a *thorough knowledge* of practical husbandry, with a portrait of the American Editor.

The publisher makes the following liberal offer to Farmers and clubs in order that every one may possess this valuable EVERY DAY REFERENCE BOOK.

Single	copies bound	in two vols.	cloth,	$1.00
Two	"	"	cloth,	7.00
Five	"	"	"	16.25
Ten	"	"	"	30.00
Single	"	"	leather,	4.50
Two	"	"	"	8.50
Five	"	"	"	18.75
Ten	"	"	"	35.00

C. M. SAXTON,
Agricultural Book Publisher,
Aug. 1—2t. 152 Fulton st., New-York.

Patent Wheel Cultivator,

ONE of the most useful implements on the grain farm for summer fallowing, preparing grain land, and putting in grain; price with 9 teeth, $30.

PATENT GRAIN DRILLS—of the most approved construction, for 7 to 11 teeth—prices, from $50 to $100. EMERY & CO.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

New-York State Fair,

In Rochester, Sept. 15th, 16th, 17th, 18th and 19th.

THE subscriber has been appointed local secretery, of the New-York State Agricultural Society at Rochester. Any inquiries respecting matters connected with the arrangements of the show grounds for the Fair, may be addressed to me.

Persons having articles for exhibition, who cannot accompany them to Rochester, can consign them to me, and I will see that they are taken proper care of, and the necessary entries made at the business office. JAMES P. FOGG.
Rochester, Aug. 1, 1851—2t. Local Secretary.

A New Volume of the American Phrenological Journal.

COMMENCES July 1, 1851. Now is the time to subscribe. Devoted to Phrenology, Physiology, Magnetism, Physiognomy, Mechanism, Education, Agriculture, the Natural Sciences, and General Intelligence, profusely illustrated: it cannot fail to interest every class of readers. Every family, and especially all young men and women, should have a copy. It is printed on the first of every month, at One Dollar a year. All letters should be post-paid, and directed to

FOWLERS & WELLS,
Aug. 1—2t. 131 Nassau street, New-York.

Cottage Buildings, &c.

THE AMERICAN ARCHITECT—Now complete in 24 numbers, at 25 cents each single, or $5 for the work complete in numbers; $6 bound in two vols—the whole containing 24 beautiful designs for country residences, with plans, elevations and estimates, varying from $600 to $5000. This is one of the most desirable architectural books ever published in this country or England.

Also, THE AMERICAN STAIR BUILDERS' GUIDE, in one vol. octavo, with numerous illustrations. Price $2.

Published by C. M. SAXTON, 152 Fulton street, and for sale by all the booksellers. New-York, August 1—2t.

SAXTON'S COTTAGE AND FARM LIBRARY,

Volume First now ready.

THE Cottage Bee-keeper: or, Suggestions for the Practical Management of Amateur and Cottage Apiaries, on scientific principles, with an appendix of notes, chiefly illustrative. By a country Curate. Price 50 cents. To be followed by others, forming the most complete Series of PRACTICAL AND USEFUL BOOKS that has been offered to the American public for many years.

Aug. 1—2t. C. M. SAXTON, 152 Fulton, st., N. Y.

FARM FOR SALE.

THE subscribers offer for sale the farm, late the property of, and now occupied by Mr. Charles Van Eps, in the town of New-Scotland, Albany county. The farm is located about three-fourths of a mile southerly from the New-Scotland Church, and about seven miles from the city of Albany, by a good road. It contains one hundred acres of land, of the very best quality for grass or dairy purposes. It is a good grain farm, but is peculiarly adapted to grass. It lies well and handsomely, as to exposure, roads, water, &c. It is all in a state of cultivation except a few acres of wood necessary for the farm; there is not three acres of waste land on it. The house is commodious and comfortable. The other buildings and fences are not as good as the farm would warrant, but are sufficient in number and size, and in tolerable repair. The premises will be sold in fee—free from quit or rent. Title good and terms easy. For further particulars, address either of the subscribers.

J. D. DEGRAFF, Fonda,
D. C. SMITH, Schenectady.
August 1—3t Executors of John J. Degraff, deceased.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

NEW SERIES. ALBANY, SEPTEMBER, 1851. VOL. VIII.—No. 9.

AGRICULTURE OF OHIO—No. 2.

BY W. G. EDMUNDSON.

ON THE CULTIVATION AND MANAGEMENT OF MAIZE.—Next in importance to wheat, is the corn crop of Ohio. The annual production of this crop ranges from 70,000,000 to 80,000,000 bushels, a very large portion of which is fed to cattle, hogs and horses, and other domestic animals. The actual money value of the corn grown in Ohio, for a series of years, doubtless far exceeds that obtained for the wheat crop for the same period. A superficial observer, might not be willing to admit the correctness of this opinion, but its truth may be conclusively shown. Corn is never known to fail, and on land at all suited to its culture, by proper management, the average product will not vary more than twenty-five per cent, in any single year, although it may be considered unfavorable for the crop. Wet seasons, that are greatly to the prejudice of the wheat crop, are very favorable on most soils for the production of corn. Wheat, in periods of about five years, proves so great a failure that it does not pay the farmer the cost of production; and anything like a full paying crop cannot with confidence be expected more than every alternate season. Two good crops may come in succession, but the two succeeding ones will most likely be failures to a greater or less extent. This statement, strange as it may appear to many, can be fully borne out by facts, yet it by no means proves that Ohio is not a good country for the production of wheat. It only goes to show, that corn is less subject to casualties than wheat, and that in a financial point of view, it is more reliable, both to the grower and exporter. If it had not been for the eighty odd millions of bushels of corn that was grown in Ohio in the summer of 1849, no possible effort on the part of her citizens could have prevented a serious financial crisis. That year the wheat crop proved a total failure in at least one half of the counties, and scarcely sufficient was raised to supply the rural population with bread-stuff, much less the citizens of the cities and towns. The commerce and credit of the state relied mainly upon corn, pork, beef, wool and dairy products, and the latter being greatly dependant upon the former of these great leading products of the country, it may fairly be inferred that in this instance at least the corn crop saved the state, or at least its commercial interests, from bankruptcy. So important an interest then, as the one under consideration, must necessarily be carefully discussed, and in order that the reader may not be deceived by a mere show of favorable figures, the dark as well as the bright sight will be exhibited.

Unlike any of the eastern states, the rivers with their branches in Ohio, are proverbial for the great extent of the rich valleys they afford. These valleys are eminently adapted for the growth of corn, grass, and even wheat and clover. No conception can be formed of the extent and fertility of the valley lands of this state, by persons who have never personally seen them. The Miami and Scioto valley are each upwards of one hundred miles in length, and from one to eight miles in breadth. The country adjoining those rivers right and left, is washed by streams or smaller rivers that have each almost innumerable branches, all of which have rich bottom lands ranging from one-fourth to one mile in breadth. The same applies to all the other rivers of the state, and the sum total of the area of this description of soils must equal at least one-fifteenth of the entire cultivated lands of Ohio. As a general thing the vegetable mould on the surface averages about fifteen inches, below which is a deposit of clay and sand-loam, of from three to five feet, resting upon a strata of lime, and sand-stone gravel, the latter being entirely dependant upon the character of the primitive rocks, that prevailed in the region of country, where those rivers and streams are located. Some of the rich bottom lands are not underlaid with gravel, but rest upon a stiff clay, unfitting them for wheat and clover, and on such soils only corn, grass, and oats are grown. By far the greater portion of the intervale or bottom lands of Ohio, are of the description first mentioned, and in consequence of the porosity of the subsoil and the draining influence of the gravel, it may be worked much earlier in the spring than ordinary upland, and the wheat and clover plants are less liable to be injured by winter and spring frosts, than on soils whose elevation and constituent properties, would entitle them to the appellation of first quality of soils for wheat, clover, and other small grains. On this account, in connection with the ease with which they are plowed and cultivated, valley farms bring a much higher price in the market than any other description of lands. Good farms of the kind described cannot be had, within a convenient distance for market, in any of the old settled counties of the state, for a less price than from $25 to $50 per acre, according to the buildings and other improvements.

Corn, as has already been stated, forms the great staple among the farmers who cultivate the rich alluvial soils of Ohio. In many cases as high as thirty crops of corn have been grown upon the same field, and the last crop was as productive as the first. So fertile was the soil of many portions of Ohio thought to be, at the early settlement of the country, that the opinion pretty generally prevailed, that its reproducing powers could not be exhausted. Consequently, methods of cropping were adopted at the start, which were calculated to extract the fertilizing properties from the soil, without restoring any of the requisite elements for the reproduction of those crops, and hence, except under very favorable circumstances, a deterioration in the quality and value of those lands has been gradually produced, greatly to the pecuniary loss of the land owners. In some instances an enlightened system of cultivation and rotation of crops is practiced, but we regret that the masses of the Ohio farmers have yet to learn by bitter experience, the importance of nursing rather than skinning their lands.

As far as the eye can stretch in the distance, nothing but corn and wheat fields are to be seen; and on some points of the Scioto Valley, as high as a thousand acres of corn may be seen in adjoining fields, belonging to some eight or ten different proprietors. From one to two hundred acres of corn are grown by the rich landed proprietors of the Scioto and Miami valleys, and, with only one plowing previous to planting, and some three stirrings with a shovel plow, an average crop of from fifty to eighty bushels per acre, may confidently be expected. This large yield, with the trifling amount of labor expended, and the result being comparatively free from risk and contingency, all combine to make the corn crop a favorite one among those who possess soils eminently adapted for its growth. Where the practice prevails of growing corn in succession for many years, without allowing any other description of crop to alternate, the soil becomes overrun with annual weeds, which attain a great growth during the month of August and the early part of September, so that by the time the crop is ripe, the ground becomes matted with weeds fully knee high, and before the setting-in of winter, the seed of those weeds becomes matured, and the following season are equal, if not a greater annoyance, than the previous year. This difficulty is thoroughly obviated by some farmers, who adopt a rotation of crops suited to effect that purpose. The ordinary management given the corn crop, not only brings the land to the finest tilth, but completely eradicates all kinds of grasses and weeds; so that when the crop is laid by, as it is termed, which is done in the month of July, no species of summer-fallow could better prepare the ground for wheat. About the last of August, or first week in September, many sow their corn ground with wheat, and cover the seed with a steel tooth cultivator or shovel plow. Others cut up the corn and shock it up in rows across the field, about 15 or 20 yards asunder, and then plow up the ground between those rows, and sow it with wheat, leaving strips of some eight or ten feet wide, on which the corn was shocked, to be sowed with oats the following spring. Of the two systems, the latter is most extensively practiced, mainly on account of the inconvenience experienced in sowing and covering the seed amongst a crop that is very subject to fall down when the ears begin to get heavy. Where it can be done, the plan of sowing wheat among the standing corn, is preferable to waiting till the crop is harvested, on account of the late period the wheat is sown when this plan is adopted.

The early varieties, such as find favor in the east, are rarely to be found in Ohio. In some instances, a large variety of the eight rowed yellow corn is cultivated for the purpose of preparing the ground for wheat, in which case it is harvested by the middle of September, and the whole of the ground is cleared of the crop, and sown with wheat the latter part of September. This plan, however, is only done on a small scale, and by those farmers who simply grow corn sufficient for domestic consumption. In almost every instance, the dented varieties of corn are grown by those who make corn growing a leading department of their business. These varieties grow at least twice as tall as northern corn; have a much stronger stalk; are not very subject to suckers; have but few ears on a stalk, and those of large growth, and when thoroughly filled and ripened, the birds and squirrels do not damage the crop to the same extent that is done to the small varieties. The ears take a position on the stalk from 3 to 5 feet from the surface of the ground; and not more than two ears per stalk are obtained, even by the most thorough cultivation and liberal manuring. The rows are placed from 3 to 4 feet asunder, in opposite directions across the field, so as to admit the crop being cultivated by the shovel plow, corn plow, or steel tooth cultivator, as the case may be, and from three to four stalks are allowed to grow in a hill. Ordinarily, the crop is worked four times, beginning when the plants are only a few inches high, and ending when the stalks are some two or more feet high; but in some instances even the fifth and sixth horse-hoeing is given the corn crop, which is mainly done to improve the condition of the land for the succeeding wheat crop. On the rich valleys, however, two, and at the outside three dressings, with the one horse, or shovel plow, is all that is required to obtain a full average crop of from 60 to 80 bushels per acre; and hence a less amount of labor is required, than would be necessary on thin upland, to bring about the same result. When the expense of manuring upland is taken into the account, the labor necessary to obtain say 60 bushels per acre, is fully twice as much as would have to be expended to secure the same result on ordinary bottom land. It therefore, must appear obvious, that those who are in possession of land naturally adapted for the growth of corn, can produce it at a much cheaper rate than those whose soil is better suited for the growth of wheat and clover; and as evidence of this, the fact need only be mentioned, that the valley farmers, who cultivate corn entirely, are becoming very wealthy, whilst those who engage in the business extensively on their upland, are not more than barely paid for their labor. The whole matter is easily explained. The average product on the rich alluvial soils is 60 bushels per acre, costing in labor, one plowing, and two or three dressings with the shovel plow; whilst on the high, thin land, the yield is about thirty bushels per acre, costing in labor fully twice as much as on the former description of soils. The difference does not end here, from the fact that the bottom land contains the requisite food for the corn plants to produce from 20 to 30 consecutive crops, averaging from 50 to 100 bushels per acre, according to the amount and kind of labor expended upon it in its cultivation; and, on the other hand, a naturally rich wheat soil will yield only some 8 or 10 crops of corn in succession, averaging from 30 to 50 bushels per acre, according to circumstances, unless a liberal dressing of barn-yard manure be applied to it, in periods of from two to three years.

In very many cases the corn crop is fed on the ground to beef cattle and hogs. This practice prevails more extensively in the southern portion of the state than in any other. At first sight the system appears slovenly and wasteful, but it really possesses some favorable features that deserve consideration. By feeding the crop on the ground to horned cattle and hogs, the latter pick up and consume what the former would destroy and tread under foot, and the whole crop, including corn, leaves, and most of the stalks, are masticated by the animals, and converted into a liberal supply of the very best kind of manure for the corn plants. When the interest of land, taxes and cost of production are carefully computed, the actual cost of a bushel of corn on the valley lands does not exceed 12½ cents per bushel; and in favorable seasons will not equal that sum. At the prices that beef and pork brought in the market the past and present seasons, corn judiciously converted into beef and pork on the principle adverted to, would pay from 25 to 35 cents per bushel. This is a full average price for corn in Ohio, and by feeding it on the ground the labor of cutting up the crop, husking and cribbing it, and drawing it to market are avoided, and besides the ground is improving rather than being exhausted, as would be the case by the common process. The number of cattle fed and driven to the eastern markets, in the district of country lying south of the national road, average annually some 30,000, a very large portion of which are first fed on grass till tolerably well fattened, and then put on corn in the manner described during the fall and winter months till spring, when they are driven in droves ranging from one hundred and fifty to two hundred head in a drove. The largest feeders drive from four to eight hundred head per annum, and the business to present appearance will yearly become better, as the facilities for getting to the eastern markets become increased.

There are many things to admire and a still greater number to deplore in the methods of cultivation adopted by the corn growing farmers of Ohio. They have well learned the secret of extracting from the soil, its fertilizing properties. This they do by deep plowing and by frequently working the corn with the one horse plow, or shovel plow. But when we have said this on the favorable side, but little more can be added, unless an expose be made of the wretched barbarous systems that very generally prevail, which have the result of impoverishing the soil, without giving any adequate return to the proprietor of the land for the money and labor expended in the operation. Happily a better state of things may be expected through the instrumentality of agricultural societies and papers, and also from the example of the few enlightened farmers that are dotted over the country, exciting an almost magic influence on the minds and practice of their neighbors.

The plan of growing corn, wheat and oats for a series of fifteen or twenty years on the same soil, without allowing a clover crop, a naked fallow, a root crop or a liberal barn-yard manuring to alternate—to say the least of it, deserves no better name than wretchedly bad farming. This or other plans equally obnoxious, find favor and are extensively practiced in many portions of this great and flourishing agricultural state. The average annual agricultural products of this state, might be constantly on the increase by adopting a rational system of culture and rotation of crops, without increasing the cost of production. The quantity of corn and wheat cannot be greatly increased by the present system of farm management, even including what are raised on new lands brought into cultivation; but a great danger exists of a rapid decrease, which can only be avoided by the adoption of improved systems of cultivation that have for their object the improvement and increased production of the soil. The average yield per acre should be sought to be increased, without in the end exhausting the fertilizing properties of the soil, and this object once generally accomplished, will entitle this to be the first agricultural state in the union.

Poultry and Poultry Books.

A Treatise on the History and Management of Ornamental and Domestic Poultry. By Rev. E. S. Dixon; with large additions by J. J. Kerr; illustrated with original figures of Fowls, Philadelphia: E. H. Butler & Co.

It is not more true that mankind are subject to certain epidemic diseases, than that they are also subject to various excitements of a social and pecuniary nature. The commercial world has had its speculative manias, which have at times deeply occupied public attention, and have been seriously disastrous to the fortunes of individuals. Thus England has had its "Darien" and "South-Sea" schemes, its "Railway Mania," &c.; France its "Mississippi Scheme," and Holland its "Tulip Mania." America is not less subject to such excitements, and they have been extended more to the agricultural community, than in the old world. Hence, at different periods we have had the "Merino Fever," the "Down East" and other land "Fevers," the "Multicaulis Fever," the "Berkshire Fever," and lastly, the "Hen Fever," which, to some subjects, will probably be worse than the "Chicken Pox."

It is not to be maintained, however, that the consequences of these excitements, though in many instances highly injurious, are entirely without benefits. They have, in various instances, established important facts; and, though the lesson has been dearly bought, it has served to teach many the distinction between "good and evil," in regard to subjects of which they had previously but little knowledge. Thus, the great attention which is now given to poultry, may prove of more or less benefit, by imparting a knowledge of the proper modes of management, and of the characteristics of different breeds. When the peculiarities of each become fully known, people will be better able to select those which will best answer particular purposes; and if the various trials could be properly conducted, and the results recorded, they would form a valuable source of information for the future. But to render these experiments valuable—to develop by them light, which will be useful, either in a physiological or economical view—they must be conducted systematically, and the results must be placed in an intelligible form.

The eagerness of our people to acquire information on this subject, is shown by the avidity with which they have seized the various effusions in the department of poultry literature, which have appeared within the last eighteen months. No less than *five* different poultry-books have been published in America during the last and present year, besides several editions of former works, and the importation, to a considerable extent, of several of British origin. The character of most of these books, is by this time pretty well understood by the public. A prominent object with most of the American authors, has evidently been to extol the value of certain varieties of fowls, which either are, or are represented to be, rare in this country. This has stimulated the demand for such fowls; a desire to obtain the fowls, or to learn what they are, has induced the purchase of these books, and the books have induced the purchase of the fowls. How long a profitable trade of this kind can be carried on, cannot be foretold. As to the trade in the books, much, doubtless, depends on the accuracy of their descriptions, and the general truthfulness of their contents; for it is not to be doubted, that in this, as in other business, the sequel will prove that "honesty is the best policy."

But to proceed to a notice of the work whose title appears at the head of this article. The reader is led to suppose from this title, that the work comprises not only that of Mr. Dixon, but that it has "large additions" besides. The same idea is held out in the preface. It begins thus: "In offering to the public Mr. Dixon's Treatise 'On Ornamental and Domestic Poultry,' the Editor begs to submit a few preliminary remarks." The editor, Dr. Kerr, then goes on to say, that he had been induced to engage in the work because the public had "seemed pleased with occasional articles" he had written on poultry, with the signature of "Asa Rugg." On "carefully consulting" the various treatises on poultry, he says, he "came to the conclusion that the Rev. Edmund Saul Dixon's work on 'Ornamental and Domestic Poultry,' was decidedly the best. I [he] determined, therefore, instead of adding *another* book to this branch of Natural History, merely to edit this, adding portraits of the most important fowls described," &c.

After all this from the title page and preface of Dr. Kerr's book, persons who have read Mr. Dixon's, will be surprised to find that the two books have comparatively little resemblance. In fact, the former is less a copy of the latter than is Mr. Browne's Poultry-Book,* in which Mr. Dixon's is only *incidentally* acknowledged. Dr. Kerr has not even followed Mr. Dixon in his general arrangement; but has in several instances given names of breeds not recognized by Mr. D., and has changed the names as given by the latter, in such a way as to completely nullify and contradict his statements. Thus Mr. Dixon forms into one family, called Hamburghs, the varieties known as Bolton Greys, Bolton Bays, Creoles or Corals, &c., *none of which have top-knots*—all the latter being comprised by him under the name of Poland Fowls,—as Black Polands, Golden Polands, and Silver Polands. He says "Certain fowls with top-knots are called by the above names, sometimes also Polanders." It is proper to say, in passing, that Mr. Dixon's arrangement in regard to Hamburgh and Polish fowls, agrees with that of the London Zoological Society, and the Birmingham Poultry Association. Dr. Kerr, on the contrary, begins his chapter on Hamburgh fowls, by saying that the Spangled have "large top-knots, colored instead of white, and the black and conspicuous muffle or ruff on the throat and under the beak." And, as if to confuse and perplex the reader, he inserts, in the midst of Mr. Dixon's description of the Hamburghs, (the chief part of which he copies,) a cut of these top-knot and muffled fowls! Could anything be more absurd than this perversion of the language and meaning of an author? Indeed, after a pretty thorough examination, it is difficult to discover any better reason for the use of Mr. Dixon's title by Dr. Kerr, than the advantage which would be afforded by the popularity of Mr. D.'s book. It is true that Dr. Kerr has extracted much from Mr. Dixon's book, as well as considerable from others—in some instances perverting the sense and in others omitting the requisite credit—* though none of the authors he has thus pillaged will be desirous of standing god-father to Dr. K.'s bantling. But Mr. Dixon's particular opinion of his namesake has not yet transpired. It seems, however, that Mr. Dixon, when he wrote his book, was not entirely unacquainted with the compiler of the work under examination. At pages 293, 294 of Mr. Dixon's second edition, an extract is given (in a note) from a letter signed "J. J. K., Kensington, Philad: N. America." This letter describes two importations of fowls said to have been made "direct from Shanghae." Mr. D. remarks, in relation to the difference between the fowls of these importations, as described in the extract, that the "learned poultry fancier" would probably turn the difference to good account. "The name of Cochin-China," says Mr. D., "is appropriated to the first variety; 'Shanghae fowls' may with advantage be given to the second." Now just what is here given as a prediction, has been done—fowls from Dr. Kerr's two importations "direct from the city of Shanghae," having been exhibited at the last Boston poultry-show as different breeds—the one "Cochin-China" and the other "Shanghae." The names of the exhibitors can be given, if necessary. It is fair to say, however, that they probably gave the names by which the fowls came to them from Dr. Kerr.

This accommodation to circumstances is in some degree explained by the fact, that some of the Boston "fanciers" regard the Cochin-China and Shanghae fowls, as distinct breeds. Their savans have taught that this distinction consists in the legs of the former having no feathers on them, while those of the latter are feathered. This distinction is attempted to be set up by Dr. Bennett and Mr. George P. Burnham. (See Bennett's Poultry-Book, pp. 33, 34, and Dr. Kerr's book, pp. 148, 149.) Dr. Bennett, indeed, argues that the Shanghaes and Cochin-Chinas, come from very different countries—

---

* The American Poultry-Book. By D. J. Browne, New-York, 1850.

* In Dr. Kerr's chapter on the game fowl, he copies several pages from Nolan's work on poultry. He says before beginning to copy it that he takes "the following" from a "work recently published in Ireland." This is all the credit, and there is nothing whatever to show *how much* was meant by "the following."

the former, he says, "from the mountains in the extreme north of China"—"the Cochin-China originates in a country of that name, in a more southern latitude." And he raises the hypothesis, that "nature may have provided the Shanghae fowl with feathers upon their legs and feet, as a protection," which "protection" is thought to be unnecessary for the Cochin-Chinas in their native climate. This, Dr. Bennett says, is his "opinion;" but he complains that "many poulterers declare, spite of 'feathers or no feathers,' that their fowls are 'Cochin-Chinas' *or* 'Shanghaes'—just as they please"—adding, that he finds in many instances, "a decision on this point depends entirely upon which particular kind *you want to buy*." [p. 34.]

Perhaps Dr. Kerr could inform the public whether any such motive as that hinted by Dr. Bennett in the expression last quoted, had any influence in giving the names of "Cochin-China" and "Shanghae," to his two importations, which he says were "direct from the city of Shanghae."[*]

But on perusing the preface to the work whose title is at the head of this article, the reader will be led to believe that Dr. Kerr has formed a determination to have nothing more to do with this nonsensical twaddle of fowls, being sometimes Shanghaes and somtimes Cochin-Chinas, for in a note on page 10, he says he "is quite confident that the fowl described in English treatises on poultry as the Cochin-China, is, when pure, identical with our thorough-bred Shanghaes." But as we proceed in examining the work, we find he by no means relieves himself from these inconsistencies. His sixth chapter is headed "Varieties of the Shanghae Fowl," and his seventh "The Cochin-China Fowl." The former opens with four figures, said to be "portraits of Dr. Kerr's Shanghaes"—three have, and one has not, feathers on the legs. Next, in the same chapter, we have "portraits of Mr. E. R. Cope's Shanghaes" which it is said were imported in April 1850, "direct from the city of Shanghae." There are three figures, none of which have any feathers on the legs. In the chapter on "Cochin China Fowls," we have "portraits of Mr. E. R. Cope's Cochin-Chinas," said to have been procured "last summer" (1850) of Messrs. Baker, of London. They are thickly feathered on the legs. Next, in this chapter, we have figures of Mr. G. P. Burnham's "Cochin-Chinas," and another plate entitled "Mr. G. P. Burnham's Royal Cochin-China Fowls," all of which are represented without feathers on the legs; and several pages from Mr. B.'s pen are inserted, in which he labors to prove that there is a "distinct" difference between the Cochin-Chinas and Shanghaes, chiefly in regard to the legs of the former not being feathered, and the latter being, when "pure, heavily feathered upon the legs."

It is hardly necessary to say that whatever distinction some may pretend to make between the Cochin-China and Shanghae fowls, or those known by these names in this country, it is a distinction without a *real* difference. Nothing of the kind is recognized by Mr. Dixon. Neither does he or any other English author on poultry recognise Dr. Kerr's pretended distinction between Malay and Chittagong fowls. It is true, however, that Nolan, an Irish writer, says, though the Chittanong is "frequently confounded with the Malay, there is no doubt of its being a *distinct species*."(!) But it is not worth while to occupy space with this matter, since Dr. Kerr, himself, admits that the very fowls to which he has applied the name of Chittagong, were formerly known, and indeed, are almost every where called Malay. A little attention, however, may be given in relation to what Dr. Kerr says of the Chittagong, and the place he assigns it in his arrangement of breeds. After having noticed what he calls the Malay, and other large fowls of the same tribe, he introduces the Pheasant Malay, the Guelderland, the Dorking, the Spanish, and the Game fowl, (comprising five different chapters,) and then comes to the Chittagong, which forms his fourteenth chapter or division of breeds. Of this fowl he says—

> "In and around Philadelphia, we have a large fowl to which the above name has been incorrectly given, as, on further acquaintance, it has proved to be a mongrel, and like most mongrels, comparatively worthless. Until within a short time, it went under various names, as Ostrich Fowl, the Turkey breed, the Big breed, the Booby, the Bucks county Fowl, *and even the Malay*."

An interesting question here presents itself, viz: whether the fowls described in this quotation as "mongrels, comparatively worthless," are not the same as are figured and described as Chittagongs in Dr. Bennett's book, (pp. 27, 28, 305,) which are there said to have been obtained from "Asa Rugg, Esq., [the '*nom de plume*' of Dr. Kerr] of Kensington, near Philadelphia," and of which it is remarked, "they are, as near as may be, perfect samples of their kind, and excite astonishment and admiration in all fowl fanciers who behold them?"

Again: Dr. Kerr says of these Chittagongs, (in his book, p. 270)—"I once had a *Pullet* of this kind which weighed eleven and a quarter pounds." And under the head of "Cochin-China Fowl," (p. 143,) he says—"I had a Pullet once, a mixture of Malay, Cochin-China, and perhaps Shanghae, that, when she came to her first laying, being then about seven or eight months old, weighed exactly nine and a quarter pounds; and when she began to lay the third season, she weighed *thirteen and a quarter* pounds. She then passed out of my hands."

In the appendix to Dr. Bennett's Poultry Book, (p. 305,) is a "portrait, drawn from life," of what is called "Imperial Chittagong Fowl," procured from this "Asa Rugg, Esq., of Kensington, Philadelphia." It is claimed that the original of the figure "is unquestionably the largest *hen* in America, weighing *thirteen pounds and four ounces*." In the same book, (p. 309,) an extract is given from a letter of the same "Asa Rugg," in which he says—"I have a Chittagong hen, three years and three months old, which last spring weighed *thirteen and one-fourth pounds.*"

---

[*] There is some mystery in the accounts of the importation of Dr. Kerr's fowls, as given by him and by Dr. Bennett. In the extract from Dr. K.'s letter in Mr. Dixon's book, (before referred to) it is said that the two importations were made "in 1847, direct from the city of Shanghae; the one in the American ship Huntress, the other in the ship Tartar." Dr. Kerr states the same thing in his "additions," (so called,) to the book he has got up, under the head of "Varieties of the Shanghae Fowl," page 126. Now let it be borne in mind that Dr. Kerr acknowledges himself the veritable "Asa Rugg" of Dr. Bennett's Poultry-Book, &c. In that Book, under the head of "Cochin-China Fowl," Dr. Kerrs' (*alias* Mr. Rugg's) fowls, are spoken of as follows: "Of the purity of Mr. Rugg's stock, there can be no question, as they were imported by him, through Mr. Taylor, of New-York, in the ship Huntress, in May, 1847, *direct from Cochin China!*" [p. 42.] As the "doctors disagree," who shall decide whether the fowls came from Cochin-China or Shanghae?

Now, do not these descriptions by Dr. Kerr, and "Asa Rugg," and Dr. Bennett, refer to *one and the same fowl?* Was not the "hen" which these writers called Chittagong, and "Imperial Chittagong," in 1850, the "pullet" which, in 1851, Dr. Kerr says, (in his book, p. 143,) was "a mixture of Malay, Cochin-China, and perhaps Shanghae,"—and was she not of the same stock which, under the head of Chittagong, (p. 270,) he declares is "mongrel, and comparatively worthless?"

From the length to which this article has been already extended, it is impossible to notice the work under consideration as fully as was intended in the outset. There are one or two more points, however, which ought not to be passed over. One is the manner in which Dr. Kerr has put the matter of this book together—it is so *dove-tailed* and mixed, that a person who is not thoroughly acquainted with Dixon's and other works, would not know who to charge, or credit, with the language. First, we have a brief preface signed J. J. Kerr; next Dixon's preface to his first edition, and next his preface to the second edition,—both "condensed." Next we have "Chapter I. The Domestic Fowl," which opens as follows:

"Preliminary to a description of the different breeds and varieties of fowls, some general account of them, and their management, will be appropriate; and I know of nothing better than the following, which I quote from Mr. Dixon. He says, in answer to the question, What is the earliest date of poultry keeping? Nobody knows. My own belief is, that it is coeval with the keeping of sheep by Abel, or the tilling of the ground by Cain," &c.

This is transcribed point for point. Now *what* is "quoted" from Mr. Dixon? Perhaps it will be said "the following." But where does "the following" begin, and where does it end? There is nothing in the book to show—no marks of quotation, no difference of type, nor anything else. It can only be ascertained by examining Mr. Dixon's book. The third chapter, (on eggs,) appears to be entirely from Mr. Dixon, but nothing is said or intimated as to its authorship, and for aught that appears to the contrary, the reader might think it was written by Dr. Kerr. The fourth Chapter, (continuing the subject of eggs,) begins thus: "I have taken some pains to ascertain the best means of preserving eggs." *Who* says this, Mr. Dixon or Dr. Kerr? The book does not tell. True, a little further along it is said—

"Mr. Dixon, quoting Mr. Cobbett, says, 'Preserved Eggs are things to run *from*, not after.' Perhaps so, perhaps not, as the case may be. At any rate, many articles of cookery which cannot be made without eggs, are not things to be run from," &c.

So it goes on to the end of the chapter. Who, without Mr. Dixon's book, can tell what is quoted from him in this case? Nothing is credited to him except the expression of Mr. Cobbett! So it is all through the book—the examples of this kind of *twistification* are "too numerous to mention."

A large portion of the work consists of letters obtaintained by Dr. Kerr from persons who own the fowls whose "portraits" are here given. Some of these letters contain useful information; the character of others, in some respects, admits of neither approval nor apology—at least,

> 'Immodest words admit but *this* defence,
> That want of decency is want of sense.'*

From what has been said, it must not be supposed that it is the intention of the writer to endorse, wholly, Mr. Dixon's *own* book. The present, however, is not a convenient opportunity to speak of that work; it is sufficient on this occasion to say, that whatever defects it may be thought to have in a scientific view, it has a good claim to originality, is written in a chaste and agreeable style, and evidently from honest motives. OBSERVER.

The Milk Establishment of Geo. E. Adams.

EDITORS OF THE CULTIVATOR—When in the city of Boston a few days since, a friend invited me to ride out to Medford, some six miles distant, and look at Mr. Geo. E. Adams' stock of cows, and at his management of the same, for the production of milk for families residing in the city.

Mr. Adams has a well arranged barn, large enough to stable 60 cows, and to hold the hay annually consumed by them. The barn has a floor or drive-way extending through its entire length, with a bay on one side, and on the other side stables for the cows and a scaffold over them. Platform scales are set in the floor near one end of it, for the convenience of weighing loads of hay, and other bulky substances, and for weighing anything else bought or sold. Underneath the barn-floor and stables is a cellar, for the making and storage of manure. The cows are made warm and comfortable in winter, and by means of ventilators in the roof and upper regions of the barn, pure air can be furnished the cows, without subjecting them to currents of cold air. The barn can also be made cool and comfortable in summer.

The stock of cows varies in number from 40 to 60 head; they are mostly bought in the fall, milked 8 to 12 months, and then sold to the butchers for beef, at a price about $5 per head less than their cost as new milch cows. Some superior milkers are kept along for three or four years, producing calves each year; but as a general rule, it is considered better economy to sell most of the cows for beef at the end of 8 to 12 months, and purchase new milch cows fresh from the country, than to allow them to be in calf, and incur the expense of keeping them while dry.

The cows are pastured about four months of the year, commencing the first of June. They are stabled nights during the time, are milked at evening and morning in the stables, and have green feed, such as clover, cornstalks, &c. in their mangers, evenings and mornings. The rest of the year they are stabled night and day. Once a day they are turned into a warm shed erected over a well of water with a pump in it, the shed containing a long water-trough, with stanchels in front of it, where the cows are fastened until the stables are cleansed, and until they have drank their fill. Aqueduct water was formerly brought to the barn for the cows, but was found to be inferior to well water because of its greater coldness in winter. Experience has taught that the cows must be kept warm in winter, in order that they may be thrifty and give a good quantity of milk.

---

* In some copies, a portion of page 268 has been taken out, and the hyatus marked by rows of asterisks. On other pages, as 254, 264, words have been changed, or blanks substituted.

During the eight months that the cows are kept exclusively in the barn, they are fed upon hay and meal. Twice each day they have a quart of meal a-piece, (in the proportion of three-fifths oil-meal to two-fifths corn meal,) sprinkled upon cut hay, and the whole moistened with water; they are also fed frequently during the day with a little dry hay at a time; twice a day they have a mess of "slops," or, in other words, one quart of meal a piece, each time, (two-fifths corn meal to three-fifths oil-meal) with sufficient water added to make a mess of three gallons measure to each cow. The meal, an hour or two before being fed in this form, is put into a large box, set upon low truck wheels; the water is immediately poured on, and the contents are frequently stirred, so that the meal may become thoroughly soaked and swelled, in which state it is thought to be more digestible, and to produce more milk, than if fed as soon as mixed with the water. A little finely-cut hay is stirred in with the meal and water, to give the mass greater consistency. When this drink is to be given, the box containing it is trundled along on the barn-floor, in front of the stalls, and from a large ladle, holding just the right quantity, each cow receives her mess, in a water-tight manger. The cut-feed is mixed in this same large box, which is moved along from stall to stall, for convenience of feeding. A clock in the meal room indicates the times when the cut-hay and meal, and the "slops" are to be given, and strict regularity of hours is observed in dispensing the same. More milk is obtained from the cut feed and the drink, than could be derived from dry hay and meal: more milk is obtained from feeding part of the meal in the form of "slops," than could be realized by feeding it all upon the cut-hay.

The meal keeps the cows in fine, sleek condition, and in eight to twelve months from the time they are purchased, they are good beef. They are carded daily, and kept perfectly clean. A trench behind them, four inches deep and twenty inches wide, receives the manure and urine, so that the platform or floor upon which they stand, or lie down, is always dry and clean, and so is the walk behind them, beyond the trench, dry and clean. Mr. Adams says, that in consequence of keeping the cows clean, the barn well ventilated, and of dispensing the feed with great regularity, he is seldom troubled with a sick cow.

Exact regularity of time is observed in milking, and the cows average about eight quarts each per day. The milk, as soon as drawn, is taken to a room at the house, and strained into large tin coolers, set in a vat containing ice-water in summer, and cold water in winter, in order to take out the animal heat, so that the milk may be fresh and sweet when delivered in town. The morning's milk is cooled as speedily as possible, and mixed with that drawn the night previous; the whole is then taken immediately to the city in small tin cans, and delivered to customers in two hours' time. All vessels into which milk is put, are daily washed and scoured, and kept perfectly bright and sweet. The milk-room is always neat and clean. The milk sells at five cents per quart in summer, and at six cents in winter.

Mr. Adams, by keeping so many cows, and feeding them high with meal, is enabled to make a large quantity of very strong manure. In order to preserve its strength, to save all the urine, as well as for convenience of cleaning the stables, he has a cellar under the barn large enough to hold a years' stock of manure. It is thrown into the cellar through scuttles in the stable floor, and about once a month, the heaps accumulating underneath are spread evenly about, and a quantity of loam tipped in, sufficient to cover the manure four inches thick; or, in other words, three parts of loam are mixed with two parts of manure. Before carting the compost out to the fields, it is shoveled over from top to bottom, and so thoroughly mixed as to make it of uniform quality throughout: Without the addition of loam, and the thorough mixture by shoveling over, the manure would be so wet and heavy as to create great inconvenience in loading, carting, and spreading the same, as there is a great deal of liquid manure, in consequence of the cows receiving so much of their food in a wet state.

In addition to the stock of cows, Mr. Adams keeps four or five horses for the distribution of the milk and for work on the farm, and two to four working oxen. It is therefore a great object with him to produce a large quantity and a good quality of hay for the support of his numerous stock. He has 30 or 40 acres of sandy and gravelly land, 20 acres of moist land, and 50 acres of salt marsh, all of which produce hay exclusively. Each field of the dry or upland soil is plowed every fifth year, in August or September. The land is smoothly turned over to the depth of eight or nine inches; thirty loads, or ten cords, of compost to each acre spread upon the furrows and harrowed in; one-half bushel of herds-grass, three pecks of red-top, and ten to twenty pounds of clover seeds sown to the acre, and bushed in; and the surface is then smoothed with the roller. In July of the next season the new seeding is fit for the scythe; and the land produces good crops of hay for five years. For the first year or two, the hay made from the new seeding is principally clover, which is mostly mowed and fed in a green state to the cows, in their stalls. For the remainder of the five years, the hay is red-top and herds-grass, with a mixture of white clover, which comes into the sward of itself. Twenty acres of moist land, lying upon a flat surface between the upland and salt marsh, are never plowed, but are kept in perpetual grass by a top-dressing of twenty-five loads of compost to the acre, every third year. Red-top and white clover are natural to this land, and at haying time a heavy, thickly matted swath of grass rolls from the scythe, which makes remarkably milk-producing hay for the cows. Thirty acres of the marsh produce a good quality of salt hay, and twenty acres, lying low, and being subject to flowage, yield an ordinary quality of hay. In feeding cut hay to the cows, a mixture of salt and fresh hay is given, which is agreeable to them, and promotive of health and thrift.

Mr. Adams raises a variety of fruit. His orchards of the apple, give, in good seasons, from five to six hundred barrels of fruit. There is an old orchard upon the farm that contains some of the largest apple trees I have ever seen; they are very sound and thrifty; their tops spread over a wide surface of ground, and the trees are very productive. The soil in this orchard is kept open with the plow; it is manured with about twenty loads of compost to the acre every third year, no crop being put into the land; indeed the foliage of the trees is so dense and luxuriant that no crop other than the apple can grow. Among smaller younger trees, corn is sown, in drills, for the production of green feed for the cows.

In a portion of one of the orchards the ground became badly infested with twitch-grass, which could not be killed with the plow. Last year the land so encumbered was fenced off by itself, several bushels of corn sown broadcast to the acre and plowed in, and fifteen or twenty hogs turned into the inclosure. They immediately began to root for the corn, and with the most untiring industry turned the soil over and over again. A few weeks after, corn was again sown and the land plowed and the hogs again rooted it over. Then the operations were again repeated; and this year no twitch grass is seen.

I had but an hour or two spend with Mr. Adams. I should have been glad to have devoted at least a day to an examination of his farming, for I saw enough while there to convince me that he is a very enterprising excellent farmer. I hope to call upon him again, at a time when I have more leisure; and if I do, I will give a more extended account of his farming. F. Holbrook.
Brattleboro', July 5, 1851.

Harvesting Indian Corn.

Various modes of securing this important crop, have been practiced. The most common mode which formerly prevailed in the older settled portions of the Northern States, was to cut off the stalk a few inches above the ear, after the grain had reached a certain stage of ripeness,—usually indicated by the top of the stalk or "tassel," being dead. This is called "topping." The "top-stalks" thus cut off, are, when wilted, bound into small bundles, and afterwards placed in shocks to cure. The corn is left to ripen on the "but-stalks," and when sufficiently dry is harvested, either by breaking off the ear with the husk, or by cutting the stalk close to the ground. These modes are most common, though the corn is sometimes husked on the standing stalk. In the latter case, the stalks are usually cut and stacked or housed, after the corn is gathered. Where the ears are, with the husks, broken from the stalks, cattle are usually turned into the "stalk field" to eat the leaves, or whatever they find that is eatable, and the stalks are left to be plowed in, or to rot on the ground.

In the Southern States a similar mode has prevailed, with the addition of the "gathering of the blades." The latter operation consists in stripping the leaves, by hand, from the "but-stalks," after the corn has been "topped." The leaves are bound in bundles, and form excellent fodder for horses or cattle.

In the Western States, the practice of topping stalks has never prevailed as extensively as in the eastern and northern sections of the country. In the principal cattle districts, the crop is commonly cut and shocked, and fed from shock without being husked. In that fertile region, where corn grows from 12 to 15 feet high, and sometimes higher, it is inconvenient to cut the top-stalks, as the ears are often higher than a man's head. At the same time the large size of the stalk and the great bulk of the whole plant, render it expedient, in many instances, to cut the crop at the height of two or three feet from the ground. Even then the shocks are tall, and the ears are so far from the ground that the lower part of the shock remains open to the admission of the air. The but-stalks, which are left on the field, are too coarse and composed too much of hard fibre and corky pith, to afford much nutriment to animals. After standing exposed to the frosts and storms of winter, they are either cut off with scythes, or are beaten to the ground by a heavy wood implement drawn over them by horses or oxen, which leaves them in such a situation that they are readily plowed into the soil.

In some instances, in the west, the crop is left entire, to ripen in the field, and the ears when ripe are broken from the stalk. In such cases cattle are turned in to glean the field, and what they leave returns to the soil.

Topping corn is probably less practiced in this country generally, and especially in the northern portion, than formerly. There are several reasons for this. First, a conviction of the loss sustained in the value of the fodder; second, the loss in the weight and value of the grain; third, the liability of the crop being injured while in an immature state, by frost.

All these reasons are important. As to the first, the northern varieties of corn produce numerous leaves below the ear. If the stalk is cut to the ground just as it is beginning to "turn," and is properly cured, the whole is nearly equal in quality to the common top-stalks. On the other hand, the but-stalks being left in the field till the frost has extracted or soured their juices, are much depreciated in value.

It has been proved that cutting off the top-stalk lessens the yield of grain. The public is indebted to Wm. Clark, Esq., of Northampton, Mass., for several interesting experiments, which have established this fact. The result is, indeed, altogether reasonable, and in accordance with nature's laws in similar cases. What other plant would bear such mutilation without injury? Deprive the vine of its leaves, and the grape is imperfect. So it is with the apple, pear, plum, &c.

We have known no experiments made with direct reference to the comparative value or yield of corn when left to ripen, untouched, or is cut up at the ground and shocked; but it is probable that the superior quality of the fodder by the latter mode, would much more than counterbalance the advantage, if any, in the value of the grain by the former.

We see no reason why the same rule would not apply to Indian corn as to wheat, or other grain. It has been settled in regard to wheat, (and also in regard to rye and oats,) that the grain itself is worth more in the aggregate by being cut before it is dead ripe—even while it is soft and *doughy*—and while the straw has yet a considerable shade of greenness. Thus, the grain is not only of more value,—will make more and better flour,—but the straw is much better food for stock. It is undoubtedly so with Indian corn. It has, in fact, been noticed, that meal from corn that was cured in shock, is sweeter, swells more, and makes more bread than other meal.

It is fair, however, to state in regard to this mode of harvesting the corn crop, that it is sometimes cured imperfectly—from the bad manner in which the shocks are made, being packed too closely, or not sufficiently open at bottom; which, if wet weather occurs, occasions the ears, and sometimes the stalks, to mould.

But the advantage of securing the crop against frost, is in some instances one of the greatest inducements to shocking corn. This circumstance may operate with force the present season, as the crop is generally backward, and in some locations can hardly escape danger from frost—unless there should be an unusual extension of warm weather in autumn. As a security against frost, there is no question that putting the crop in shock is preferable to any other mode. Hence it is the course commonly adopted in Maine, and in all sections where the shortness of the summer renders the ripening of corn uncertain. It is the practice there, to cut the crop as soon as the grain is fairly *glazed*. It has been proved that it will cure, safely, if carefully put up in this stage; but if the weather is favorable, and is likely to continue so, it is often allowed to stand a few days longer. Sometimes, if a sudden change in the temperature indicates the occurrence of frost before the crop could be secured in shock, the whole force at command engages at once in cutting it down—throwing the corn in piles of a dozen or sixteen hills each. It is found that a light frost injures the corn but little while it is in this situation, and as soon as the wet is dried off, the following day, it may be put in shock.

But if it should happen that the crop is struck by frost while standing, it has been demonstrated that a less loss will be sustained by shocking it, than by any other mode. The years 1812 and 1816 are memorable from the injury done to the corn crop by frost—the latter season was especially remarkable for the shortness and general unpropitiousness of the summer. Over a large portion of the Northern and New-England states, frost struck the corn while it was "in the milk." As soon as the injury was ascertained, (and it was seen the morning of the frost,) the farmers set themselves to save as much of their corn as they could. Various plans were tried; such as cutting up the corn and tying it across poles, put up for the purpose, the ears downward; breaking off and husking the ears, and drying them on scaffolds or stagings; stripping down the husks and leaving the ear exposed to the air, on the stalk; cutting up the corn at the ground and placing it in small shocks.

The latter succeeded best of all the modes mentioned —especially where the work was done *immediately* after the frost. In 1836, the corn crop was much injured by frost, in many places. A writer in the *Genesee Farmer* of that year, describes the effects of topping and shocking, as practiced with two fields of corn, as follows:

"We knew of two pieces of corn, owned by the same individuals, planted nearly at the same time, and both equally promising when their progress was stopped by the frost of the 5th of September. One of the pieces was immediately topped, and the other was, as soon as possible, cut up by the bottom and shocked. They were both husked a short time since, and the owners assured us that contrary to the expectations of many who witnessed the different modes of curing, they should get at least one-third more sound corn from that which was cut up, than from that which was topped and left on the hill." [Vol. VI, p. 370.]

Show of the Royal Agricultural Society.

LONDON, July 15, 1851.

EDITORS CULTIVATOR—The Royal Agricultural Society's Show is now in progress here, and there never has been an exhibition equaling it in cattle, sheep and swine; and in horses, it has, 'tis said, but once been excelled. The Short-horns and Devons were out in great force, and I never have seen, before this, what to me was a fair exhibition of these two important breeds of cattle. The show of Herefords and of Scotch cattle, is small. In the Short-horn class, the show of two-year-old and yearling heifers, exceeds anything I have ever conceived of. They are far superior to the aged class, showing that in this breed of cattle there is no deterioration, but a constant progress—and I may say the same of the Devons. The show of sheep is truly wonderful. The South-Downs and Leicesters, of course, being pre-eminent. By the premium list, which I send you, it will be seen that Jonas Webb has swept all before him in South-Downs—every prize being awarded to him, and those who have bred from his stock. He told me, that owing to the awards last year, in which he was floored for once, it became necessary to prepare for the show, and he has done it so triumphantly, that competition was out of the question. I have never seen anything that compares with his prize rams and ewes. The show of swine is truly wonderful. Never, before, have I seen an exhibition so extensive, and so good. The number of swine, it seems to me, is equal to the cattle and sheep. There are many very superior breeds on exhibition; but after a careful examination, I am decidedly of the opinion that the *Berkshires* are the best for us,—and was I to import swine to our country, I should select them in preference to any others. They have a monstrous breed here from Yorkshire—a white hog, which attains enormous size, and has mainly, I think, carried off the prizes in the large class—but I think them altogether too large, although they lay on fat finely. The horses are many of them very good—the hunters and carriage horses, especially—but the number of inferior stallions and mares is quite equal to what is seen at our shows.

The fatness of the stock is truly surprising, and the prizes were awarded to fat, and not to character, in many instances, if not in all. The aged bulls in the Short-horn class, to which the prizes were awarded, are entirely unfit for breeding purposes—especially the one to which the 2d prize was awarded, which was a fatter animal than I have ever seen in Smithfield market—more like Col. Sherwood's fat cow exhibited last fall, than a breeding animal. In the class of two-year-old heifers, the premiums were awarded to animals almost equally fat—one of them quite as much so. The best heifer in the yearling class, where the same rule was observed, was passed by the judges with this remark to the herdsman, "*Why don't your master feed his cattle better!*" I saw one of the judges in this class, at the stall of this heifer, with his brother, who is steward of the yard, and who I know to be a capital judge, and he said to him, "can you give any reason why you did not give the premium to this heifer?" and the judge, as they say in racing matters, was "no-where." I mention these things to show, that even in this country, where there are so many good judges of stock, *flesh*, not *character*, determines too often the awards, and that a man, if he wishes to get a prize, must make up his mind to ruin his animal for breeding, in order to obtain it.

The first prize in Short-horn cows, awarded, as usual, to Mr. Booth, and I think very justly. His cow was not over fat, though quite enough so, I assure you, but for style, substance, handling, in short everything that constitutes a first-rate cow, in my judgment, she cannot well be beaten. The competition was very severe, and her success certainly gave evidence of very superior merit.

In the Devon class, there was a show that does one's heart good, who delights to look on this superior class of animals as I do. The aged and young bulls were many of them very superior, but I must say, not one, in my judgment, equal to Mr. Morris' bull Major—and they may well be good bulls, and still not equal him, as he is, in my opinion, as they say here, "*capital.*" The cows and heifers, however, were most extraordinary—fine handlers, many of them of fine milking developments, and worthy of the attention they received. Mr. Geo. Turner received the first prize for cows, and in-calf heifers, and I can truly say that his stock was very fine. I liked best, take her all-in-all, the heifer of Lord Leicester, to which the 3d prize was awarded, but still I presume the others would, in the opinion of most judges, have received the awards which were given to them.

The show of Herefords was not large. The bulls did not, in my opinion, come up to what they should, but the cows and heifers were excellent. The first prize cow of Lord Berwick, and the 2d of Rev. Mr. Smythies, (from whom I believe Mr. Sotham purchased some animals,) were very fine indeed; and the two-year-old and yearling heifers were unusually excellent, and well sustained the reputation of this valuable breed.

The arrangements of the ground were excellent—the stock all under cover—a canvass roof to all the stalls made it very convenient and comfortable; we would do well to imitate this. The number of people was less than on the first day of our show—but as the admission was 5s. this will account for it. To-morrow is 2s. 6d. day, when there will be many more—and the dinner comes off to-morrow of which I will give you an account. The mail closes for to-morrow's steamer, and so must I. Truly yours, B. P. Johnson.

London, July 16, 1851.

I have just returned from the second day's exhibition of the Royal Society at Windsor, and after a careful review of the whole stock, my impressions are the same as from my first examination. The young heifers in the three leading breeds of the show—Short-horns, Herefords, and Devons—are the great attraction, and they possess qualities, that more perfectly exemplify the perfection of breeding, than any thing I have ever seen. Mr. Lorrillard Spencer, and Mr. Thomas Bell, of Westchester county, were with me yesterday, and Mr. Bell to-day. I made to-day a more careful examination of the swine than I was enabled to do before. As a whole, they are very superior, but the monstrosities, to which the premiums were awarded, especially in the class of large breeds, are truly astonishing. The first premium on boars was awarded to a white boar from Chester, which was so fat as to be unable to rise, but with the utmost difficulty. That to which the second prize was awarded, was a complete mass of fat—his eyes *entirely closed*, and he was so much overpowered with his flesh as to be unable to rise, and there was a card placed on his pen, "*Do not disturb this boar.*" It was offered for sale for £30, for what purpose I cannot imagine, as no sane man would ever expect to breed from him, and for pork, of course, large as he is, he is not worth anything like the sum asked. Now it may be said, as it is said here, this shows the aptitude of the breed to take on fat, and it is therefore right to award premiums for animals in this condition; but if it is desirable to have good breeding animals, if our shows are designed to encourage them, it appears to me self-evident that the animals to which premiums are awarded, should be in a condition to be of service. But another objection, and which I find is fully appreciated by the best breeders and judges of stock here, is, that you cannot fairly judge of the real qualities of an animal in this overloaded condition, and although this may not with so much force apply to swine, still as a general principle it cannot be gainsayed.

In the sheep department, I made a very careful re-examination. The Leicesters, numbered—rams 121, ewes 75—196. The prize animals were truly models of what here is deemed perfection in this breed. The three prizes for yearling rams were awarded to Mr. William Sanday, of Home Pierrepont, Nottingham, and two of the prizes for ewes to the same; and in rams of any other age, the three prizes were awarded to Mr. T. Edwards Pawlett, of Beeston. I examined these prize sheep with much care, and although there were among so many entered, a large number of superior sheep, it appeared to me that those selected for the prizes were truly models for the artist, as well as the breeder.

The South-Downs were shown in great numbers—112 rams and 100 ewes—212. Owing to the fact that the prize last year had been taken away from Jonas Webb, the competition was more than usually animated. The great champion of these truly invaluable sheep, having been beaten by a tenant farmer unknown to fame, excited at the time great surprise, and encouraged every South-Down breeder, to come up to the show prepared to try his chance for the prizes. Mr. Webb, however, was on the ground, with such a display of sheep as really put competition at defiance. He had 25 rams, and taken as a whole, I never have seen that number of rams so nearly perfect—form, symmetry, fleece—everything almost as complete as if prepared by a modeller of the most approved ability. He had also 15 ewes, ten of which received the prizes. They were the admired of the show, and the multitudes who crowded around the pens to-day to view the prize sheep in this class, showed the great interest that this contest has excited.

In the class of *long wools*, as distinguished from the Leicesters, the prizes were all awarded to Cotswold rams and ewes. They were admirable sheep, and in my opinion preferable to the Leicesters. In this class, there were only 79 entered, mostly Cotswolds and New Oxfordshires. The 1st prize ram, owned by Wm. Garne, of Gloucestershire, was a superb animal, and of immense breadth and weight. One only of the New Oxfordshires was commended, but this was a very superior ram and nearly equal in all respects to his competitors. The first pen of Cotswold ewes, belonging to Wm. Lane, of Gloucestershire, were capital specimens of this breed of sheep.

The *mountain sheep* were Cheviots and Exmoors. The Cheviots were very fine indeed, and the Exmoor ewes, to which the first prize as shearlings was awarded, were unusually good. Under this division was exhibited a fine Shetland ram and 5 pure Shetland ewes. These were great curiosities—very small, with long coarse wool. The ewes were of the size of the small Welsh sheep so famous for their superior mutton, and these I believe are somewhat famous for the same purpose. The ewes were part white and part black—so wild that a net over their pen was required to keep them in the enclosure. The contrast between them and the large Cotswold buck, which would weigh more than all of them, probably, was very striking. A very singular ram was exhibited, entirely black, fine wool, rather smaller than our old Merinos, a cross between the Spanish and Welch sheep.

There were several Merino rams and ewes exhibited with their fleeces, all from Surrey. They were very fair representations of the old Spanish Merinos, had good forms, though rather small—the wool very fine, but quite short, more like the Saxons, much, than our Merinos. This kind of sheep does not meet with much favor here, as the great object is mutton, on which the people live, and the breeders thrive.

In the stock department, there are some curiosities on exhibition. The little Shetland bull mentioned yesterday, is a very fit companion for the Shetland sheep and but a very little larger. A Bramin bull, heifer and calf, in addition to the Roman bull and cow, attracted attention.

The Ayrshire and Alderney or Jersey stock, were very good indeed, and showed the peculiarities of those distinguished breeds, which stand pre-eminent for their dairy qualities. Some of the Ayrshire cows were very fine animals, of much larger size, than usually seen in our country, and although they showed the pure Ayrshire breeding, I could not but surmise, that possibly a trace of the Durham might be found in them. I was much pleased with the Long-horns, although there were only two bulls and five cows and heifers exhibited. One of the bulls to which the prize was awarded, was an animal that, take him all in all, could not have been easily beat in competition with the more popular breeds. The cows developed fine milking qualities; the heifers were very excellent, and I believe, that for some parts of England, the restoration of this breed in its purity, would not be detrimental to the farmers. The cows are now very generally found in all the large dairies; in some instances they are crossed with the Short-horn or old Teeswater, and they are very generally approved. They are a very hardy breed of cattle, attain large size, and although they do not attain as early maturity as the Short-horns, they are long-lived and are a very valuable breed.

I was most surprised with the *Sussex cattle.* When I first passed them, I supposed they were Devons, and I can now account for a race of cattle in our country, which pass for Devons, but which I have no doubt are descended from the Sussex. The cattle of New-England, in many districts, have the characteristics of the Sussex, and I believe a good selection made from these cattle on exhibition here, might have been imported to the United States, and sold without an objection, to most purchasers as Devons. I met Mr. Bell to-day, at the Sussex quarter, and he expressed his astonishment at these cattle, of which he had never heard. He noticed at once their great similarity to what are called Devons in America, and said he might have been deceived in them himself if they had been exhibited in the Devon class, and offered to him as Devons. At the Maryland State show, a stock of cattle was exhibited from the State of Deleware, called *New-York Devons.* I could not imagine where they came from. But my impression is that they are from the Sussex breed.

These cattle are very much prized in Sussex. They are rather larger than the Devons—probably they are from the south Devon stock, originally. They are generally a shade lighter color, and not quite as fine as the north Devon. They make capital working oxen, good beef, though late to mature, and they claim for them good milking qualities.

The *Scotch polled cattle* were few, and mainly of the Angus breed. They are very large, but develop very fair fattening propensities. When examining the Angus cow, which was remarkably fat, I met a London salesman, who examined her with great care and told me he never met with a more perfect animal for beef, and such, I confess, was my own impression, after a very close examination, though his opinion was of far more importance than mine. Of the Scotch *horned*, there were but few. Two West Highland cows, which showed the purity of that celebrated breed, but no bulls, except quite a young one on exhibition.

The Dinner.—At 4 o'clock, precisely, the great dinner of the Society, for which 2000 tickets were issued, and all disposed of, came off. It was in a grand pavilion adjoining the show grounds, excellently arranged. Two tier of tables, raised five or six feet above the floor, were arranged on each side of the main hall. At one of them the Duke of Richmond presided—Prince Albert and the Belgian Minister on his right, and Mr. Lawrence, U. S. Minister, and the Mayor of Windsor, on his left. The residue of the tables on the side with the President, were occupied by the invited guests, among whom I was allotted a seat. The opposite raised tables were occupied by the Governors of the Society. Lord Portman, V. P., in the absence, (from illness,) of Lord Ducie, president elect, presided. The tables below were filled up by the members of the Society, and others who had tickets. Mr. T. Bell, one of our delegates, was present. So admirable were the arrangements, that *every one* had a seat, and every necessary attention. The eating of the dinner was, as you may well imagine, disposed of in no ordinary speed, most of those present not having broken fast since early in the morning. At length the trumpeters, one by the President, the other by Lord Portman, on the opposite side of the hall, sounded the notes for attention, and the Duke of Richmond, after a few remarks applicable to the occasion and to the toast, proposed the health of her Majesty, the Queen, which was received with great applause, as it is everywhere in this country. The Duke is not an eloquent speaker, so far as manner is concerned, but he has great tact in what he says, and in the speeches which he made during the dinner, gave many capital hits, which elicited rounds of applause.

The next toast proposed, was Prince Albert, Prince of Wales and Royal family, &c. The Duke of Richmond, in proposing the toast, spoke of his Royal Highness as the patron of the Society, and as an example of domestic virtues in all his relations, which had made the home of their beloved Queen the abode of comfort and happiness. The toast was received with great enthusiasm. Prince Albert rose and made some very interesting remarks in answer to the toast. In alluding to the holding the show in Windsor Park—he drew attention very happily to the scene where King John, trembling among his subjects, unwillingly signed that great charter which has ever since been the birthright of Englishmen. Your present sovereign, he said, came confiding among her loving and loyal people—she came to admire the results of their industry, and to encourage them to persevere in their exertions, and the gratification the Queen has felt at the sight of the splended exhibition, must be participated in by all who see it.

His remarks were received with great applause. The Prince is a fine looking man, very graceful in his movements, and speaks with much readiness—is very self-possessed, and the impression made on those who had not before heard him, was of the most favorable character.

The health of the Foreign Ministers was next proposed, and was responded to by M. Van de Weyer, the Belgian Minister, in a most capital speech, in fact *the* speech of the day. He speaks English without a foreign accent, and his manner was very pleasing. He alluded very handsomely to the agriculture of the Flemings, and paid a tribute to that early improvement of agriculture among his own people, which has placed them high on the lists of agriculturists. He alluded very playfully to the despatches that foreign ministers are now in the habit of sending home. Instead of containing diplomatic despatches, he said, the *red boxes* that are now sent from the minister here to his court abroad, more frequently were composed of matters relating *entirely* to the agriculture and stock of England.

The Duke of Richmond responded very effectively to a toast to his health as President of the Society. Lord Portman made a very good speech in introducing a toast to agriculture, manufactures and commerce. Mr. Lawrence, U. S. Minister, spoke very well indeed, on introducing a toast to the Mayor and Corporation of Windsor. Mr. Lawrence's fine personal appearance, as well as his address, secure for him attention. He alluded most happily to the consanguinity of ties between a large portion of his countrymen and Great Britain; expressed his and their desire, that peace and commercial intercourse should continue. He alluded to the ancient castle near which the great exhibition was held, as dear to Americans from its associations, for the great rights of freedom which had here been secured; and also to Eaton Hall, that ancient seat of learning, from which had come forth so many great and distinguished men in every department, whose fame belongs to America as well as to Great Britain. The Mayor reponded to the toast in a few remarks suited to the occasion.

Mr. Miles, M. P., (who, from the applause with which he was received, I conclude is a great favorite with the farmers,) introduced a toast to the Judges and Stewards of the Show. It was responded to by Mr. Fisher Hobbs. Lord Ashburton proposed the health of the Laboring Classes, and accompanied it with some very interesting remarks. Mr. E. Dennison, M. P., proposed the '*Sister Societies of Agriculture.*' In rising, he was greatly cheered, and I doubt not he is well known to the farmers present. He said the customary toast to the Sister Societies of Scotland and Ireland had always been received with great favor by the Society, but at this time he would present it on more extended considerations—to Societies *wherever* they existed, engaged in the same great work with themselves. He alluded to Germany whose agriculturists and scientific men had done so much for them. He alluded to Lord Stanley as introducing to the British farmer guano, now employing 100,000 tons of British shipping to bring it to our shores. (At the mention of the name of Lord Stanley, who is the candidate of the Protectionists for Prime Minister, the hall rang with cheers, which continued for a considerable time and some difficulty was experienced in restoring quiet. This shows the feeling of this class of the English on this all absorbing question here.) He spoke of the important discovery of dissolving bones in sulphuric acid, as having been made by Liebig, a German chemist, which had proved of so much advantage to the farmers of England, and following up this discovery he said there was present to-day a gentleman from across the Atlantic, whom he had in his eye, (Mr. J., of N. Y.,) who had announced to the Royal Society the discovery of a mineral stratum, in the State of New-York, rich in the same compound as that of bones, and which could be brought to our shores at such a price as to place it within the reach of every farmer. (Prolonged cheers.) (I had presented at the last meeting of the Council of the Royal Society, a sample of the phosphate of lime received from Prof. Emmons, from Crown Point, in our State, and received from the Duke of Richmond a letter thanking me for the same, and expressing himself as very anxious to receive from our country this valuable mineral, should it prove, as it is believed it will, a valuable fertilizer.) Lord Abercorn responded very happily, indeed, in behalf of the Irish Ag. Society. He is an uncommonly fine looking man, and his address very prepossessing. In alluding to the great famine which had brought such distress upon that unhappy country, he said an allwise Providence had overruled it for the good of that Island, and that the prospects of agriculture had never been so full of promise as at present. The Duke of Richmond, in the absence of the Marquis of Broadalbane, responded for the Highland Society, of which he had been President three years. He said, being half Scotch and half English, he claimed the right on behalf of the farmers of Scotland to respond to this toast.

It was peculiarly gratifying to me during this whole meeting to witness the good feeling and the *hearty* applause with which every allusion to the United States was received, and it seems to me, that whatever feelings may prevail elsewhere, among the *farmers* of England, that of friendship and good will to us is most apparent. I have found this everywhere I have been among the farmers, and I cannot doubt that it is truly sincere.

The remaining proceedings were a toast to the Railroad companies and a reply, and the health of the President elect.

Thus has closed this annual festival of the agriculturists of Great Britain. The attendance this year was much larger than usual, owing, in some measure, to the favorable location but more to the Great Exhibition, which has brought here so many foreigners, many of whom were present to-day. The show ground was very full to-day, and it was not easy to examine the stock, owing to the crowds pressing around the stalls. To-morrow, the shilling day, there will be such a rush as we have at our shows, undoubtedly. My engagements at the Crystal Palace will prevent my attendance.

This Exhibition shows, that whatever may be the effect of the present free-trade system in this country, the breeding of stock is certainly making commendable advances. Never before, it is admitted by all here, has there been such an exhibition, for its character as well as numbers, and I cannot doubt that the raising of stock here pays well.

I am greatly indebted to attentions received during the show, from the President of the Society, Mr. Hudson, Sec'y., Mr. Shaw, editor Mark Lane Express, Mr. Fisher Hobbs, Mr. Dennison, Mr. Mechi, Mr. G. Dale Trotter, Mr. Jonas Webb, and others to whom, in behalf of our Society, I desire to tender cordial thanks. Yours truly. B. P. Johnson.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Cold Grape-Houses.

Twenty or thirty years ago, large importations were made of foreign varieties of the grape, and extensive vineyards planted by some enterprising individuals. But after trying nearly every variety, they were nearly all found quite unsuited to open-air culture, and raising grapes out of doors is now mostly pursued with the American sorts. But the superior delicacy, flavor, and sweetness of some of the foreign grapes have saved them from rejection, and of late years cold graperies having been found admirably suited to their successful culture, they are becoming very common. Fire heat being entirely dispensed with, the cost of maintaining these graperies is small. In order to fit them for general use, the buildings themselves should be constructed in as cheap a manner as possible, as this happily has been attained in a remarkable degree.

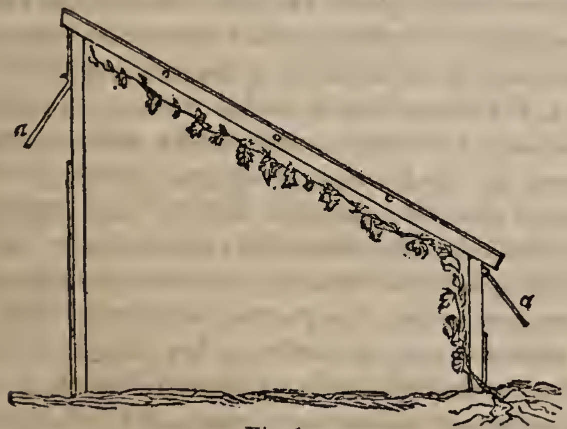


Fig. 1.

The cheapest mode of construction, of the many plans presented of late years in horticultural journals, or reduced to practice, is substantially the following: The walls consist merely of posts set into the ground, and covered with common rough board siding. This may be whitewashed or painted. The cost of the glass-covering is greatly lessened by the use of *fixed sashes*, made in the simplest manner, the necessary ventilation being effected by means of small board shutters, *a a*, (Fig. 1,) opening outwards on hinges, placed at intervals along the back and front walls. Fig. 2 represents a portion of the glass roof—*b b* are the rafters; *c c* are cross bars made of strips of inch board about two and a half inches wide, set on edge, and narrowed at the rafter and let into it sufficiently to be on a level with its top. These cross pieces support long slender bars parallel with the rafters, and formed on the top in the shape of a common sash bar, and receive the panes of glass.

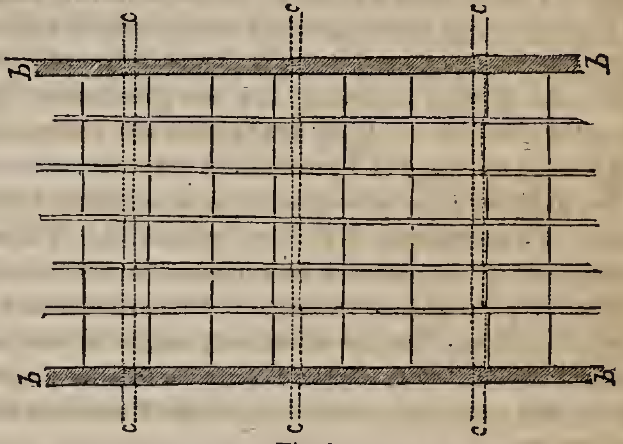


Fig. 2.

It will be at once perceived that the construction of long frames of sash, made to slide up and down the roof, which constitute a large item in the expense of glass structures, is entirely obviated.

The vine border is to be made on the outside of the front, and the vines brought within and trained along the under side of the rafters, within seven or eight inches of the roof.

The main features of this plan of building were published last winter in the Horticulturist, as adopted by T. Rivers of Sawbridgeworth, England, although it is not entirely new in this country.

◆

The American Pomologist.

This valuable and splendid new work,—a large quarto with colored plates,—is edited by Dr. W. D. Brinckle, and published by A. Hoffy, of Philadelphia. It is to be devoted entirely to American Fruits, and in this particular occupies distinct ground from any other existing publication. Each number is to contain ten colored engravings, exhibiting the fruit, shoots and leaves of each variety. The attempt has been very successfully made by A. Hoffy, the artist, to represent the specimens in what may be termed their ordinary every-day colors, and not, as is too often the case, marked with more of the brilliancy of paint than of the skill of the artist.

Those who are aware of the high reputation of Dr. Brinckle as a pomologist, will need no assurance of the ability with which the work will be conducted; and another proof of the zeal and disinterestedness he has long shown in the improvement of fruit culture, is furnished by the fact that he assumes this task without any pecuniary reward.

The first number contains figures of the Brandywine

Moyamensing, Petre, and Pennsylvania pears; the Republican Pippin, Eliza Peach, Burlington Apricot, Wendell's Mottled Bigarreau, and Col. Wilder and Cushing Raspberries.

Each is to appear quarterly, at two dollars per number, four numbers making a volume of forty plates; a price quite as low, probably, as can be afforded. We most unhesitatingly recommend it to the patronage of all cultivators of fine fruit.

Rotting of the Cherry.

Last year the earlier cherries decayed from wet weather, and a large portion of the later varieties escaped. This order was reversed the present season, the most frequent rains occurring at a later period. According to limited observations, trees which stand rather thinly on the ground, on rather elevated or exposed situations, where the air can circulate freely, more frequently escape. An eminent cultivator, in a late letter makes the following remarks:—"If we are to have any more such wet seasons as this, and I presume we shall, then several of the light-colored cherries ought to be set down a peg lower. For instance: Not one-tenth of the Yellow Spanish, or of the Large White Bigarreau, ever ripen, because they rot in wet weather. I have seen the latter however, when it was one of the very largest as well as the best kinds. Now, there are sorts that either do not rot, or only very little; and it is certainly worth while to select such."

Inquiries and Answers.

Hedges.—"What is the best hedge plant? Is there a perfect hedge of the Osage Orange in any of the Eastern States. Can a hedge be made cheaper than a rail fence?" *T., Jackson county, Iowa.*

The two best hedge plants are the Buckthorn and Osage Orange. The former is perfectly hardy, grows very freely from seeds, and if transplanted with ordinary care there will not be one failure in a hundred plants. But, there are two requisites that are indispensible. It must not be sheared flat on the top, but wedge-form or tapering to a sharp ridge, otherwise it will not be sufficiently dense at bottom. This form must be commenced before the hedge has become half grown. The other requisite is a rich soil, made so if necessary by manuring; and mellow cultivation on both sides, to accelerate its growth.

The Osage Orange is more tender, but will succeed where the peach crop escapes frost. It is more difficult to transplant, but does well with proper care. It makes a most formidable hedge. There are few if any full grown hedges in the more Eastern states, but many experiments are in progress.

Neither of these two plants appear to be liable to any disease or to the attacks of any destructive animal.

The cheapest hedge is one that is well cultivated and well cared for, as it will come into use in a third of the time needed for the neglected hedge. The entire cost from the commencement till fit for use, has usually been found to be about fifty cents per rod. A chief objection to hedges, and which retards their introduction, is the *time* required for their growth, which usually extends far beyond the patience of our hasty cultivators.

Manetti stocks for Roses.—"What is the chief advantage which this stock has over others—and would you recommend to procure it at considerable cost?" *R. B.*

The chief advantage of the Manetti stock, is that it throws up no suckers. Some roses, commonly used for stocks, as for example the boursalts, increase chiefly by suckers, and hence they are always a greater or less annoyance. But the Manetti, being propagated by cuttings only, is free from this evil. Like nearly every new thing, however, its merits are probably rather magnified beyond reality. All roses, where practicable, should stand on their own roots—many are as easily increased by cuttings as the Manetti, and others may be propagated by layers. To a few, however, neither of these modes apply—and here good stocks become valuable.

Cherries.—"In the last number of the Cultivator, you give us a small select list of cherries, for a succession—what other fine kinds would you add? I observe the Downton is not included." *A. L. N.*

The list given in the last number, was intended to comprise such as were both productive and of fine quality; the Downton is not so great a bearer as some of the others, and was therefore omitted. To make a larger list, we might add to those already given, American Heart, Cleveland Bigarreau, Mayduke, Belle de Choisey, Knight's Early Black, Yellow Spanish or Graffion, Napoleon Bigarreau, Downton, Holland Bigarreau, Burr's Seedling, Plumstone Morello.

Cincinnati Horticultural Society.

(1.) For an account of this season's proceedings of this mature and vigorous association, we are indebted to Warder's Horticultural Review. We gather from the account the following interesting facts. One of the most important of its acts is the award of the hundred dollar prize, offered some years ago, for the best strawberry superior to Hovey's celebrated Seedling. This premium was given to *McAvoy's Superior*, formerly known as McAvoy's No. 12, and which is thus described:—"Pistillate, very prolific, large, dark-colored, high-flavored and luscious—a hardy plant; the specimens exhibited superior to Hovey's Seedling, or any other strawberry that came under the examination of the committee."

(2.) The committee also notice "*McAvoy's Seedling Pistillate No.* 1; large, prolific, bright scarlet, not high-flavored, but the handsomest dish on exhibition. *McAvoy's Extra Red Seedling*,—pistillate, large, beautiful, very prolific, quality medium, not high flavored. *Schneicke's Hermaphrodite Seedling*,—the committee propose the name of Longworth's Prolific, to be so called because N. Longworth gave the seed; the largest and most prolific hermaphrodite strawberry known to the committee, and *equally prolific with any other variety;* the plant is more hardy than Hovey's, and is recommended for general cultivation after four years trial."

(3.) In connexion with the commendation above bestowed on *McAvoy's Superior*, it must be observed that several collections contained Burr's New Pine, regarded by many cultivators as the best of all strawberries.

(4.) *Longworth's Prolific* did not come in competition for the premium, the offer being confined to pistillates. N. Longworth, who has until the present time, maintained that no staminate or hermaphrodite could be a full bearer in this country, it appears has given up this point, for he bears the following testimony in favor of this new variety:—"Since it commenced bearing, the new Hermaphrodite has produced a full crop of perfect fruit. This season, on the same border with Hovey's Seedlings, and other varieties of extra large size, *it bore the largest crop, and the average size of the fruit was larger than any other. If it shall continue to produce blossoms perfect in both organs, it will be the most valuable strawberry known.*"

(5.) Apples.—*Rawle's Janet* and *Newtown Pippin* were presented, "Sound and perfect." "In keeping and eating qualities, these two varieties may be considered rivals; and in productive qualities, the Janet carries the palm, as it seldom fails to produce a good crop." The *Swaar* was exhibited "sound and in good condition; *Jonathan*, sound and handsome." The committee did not speak highly of the *Kingsley* of Rochester, although regarded as a good keeper.

(6.) Cherries.—The *Early Purple Guigne* and the *Rockport Bigarreau* are highly commended, the latter as "a magnificent cherry of great beauty."

◆

Horticulture not Forgotten.

The Lenawee county (Mich.) Agricultural and Horticultural Society, have shown by the list of premiums they have offered, a liberality and spirit of encouragement towards the culture of fruit and flowers, worthy of imitation by other county societies, and altogether ahead of even the New-York State Soc. a few years ago.

They offer $18 in premiums for apples; $9 for pears; $9 for peaches; $9 for cherries; $9 for plums; $3 for apricots; $3 for quinces; $9 for grapes; $4 for strawberries; $4 for gooseberries; $4 for raspberries, and $2 for currants; that is, $83 in all for fruits. For Roses, they propose $18; for other plants and flowers, $27. In addition to these, the Society offer $30 for discretionary premiums on Fruits and Flowers; $12, besides discretionary premiums, for vegetables; $12 for the best nurseries; and $6 for the best gardens; making, in all, for the encouragement of Horticulture, 188 dollars.

They also offer a premium for the best ten ornamental forest trees planted last spring by the roadside; and a premium for the best and greatest number of ornamental trees in or adjoining a road, saved from the destroyer's axe.

If all our county societies should imitate this example, the revolution wrought throughout the country, in rural comfort and prosperity, would in ten years be visible to the most careless observer.

◆

Qualities of new Strawberries.

At the exhibition of fruits during the present season in the Hall of the Massachusetts Horticultural Society, thec ommittee made the following decisions, relative to the quality and character of several new varieties of the strawberry:—

Ohio Mammoth, good, but not of first quality.
Scarlet Melting, of medium quality.
Burr's Seedling, do.
Columbus, do.
Scioto, very acid.
Late Prolific, acid.
Burr's New Pine, high flavored, very fine, of first-rate excellence.
Crimson Cone, acid, lacks flavor.
Charlotte, medium quality not much flavor.
Black Prince, below a medium quality.
Rival Hudson, high flavored, but very acid, of medium quality.
Unique Scarlet, of medium quality.
Montevideo Pine, fair.
Cornucopia, good, rather acid, well flavored.
Primate, indifferent.
Boston Pine, good.
Richardson's Late, very good.
Willey's Seedling, acid, indifferent.
Fay's Seedling, indifferent.
Early Virginia, good.
Aberdeen Beehive, very acid and indifferent.
Walker's Seedling, dark colored, good size, abundant bearer, of high flavor, very fine quality—staminate—worthy, the Committee think, of an extended cultivation.

◆

Hardy Pears.

James Mathews, of Coshocton, Ohio, writes, "My fruits were all killed here this spring by late frosts, except a few *Dix* and *Louise Bonne de Jersey* pears, which seem to be hardier than any other pears I have. But for this disaster, I should have had about one hundred varieties of pears alone, in bearing, in my garden, principally new kinds."

◆

Remedy for Plant Lice.

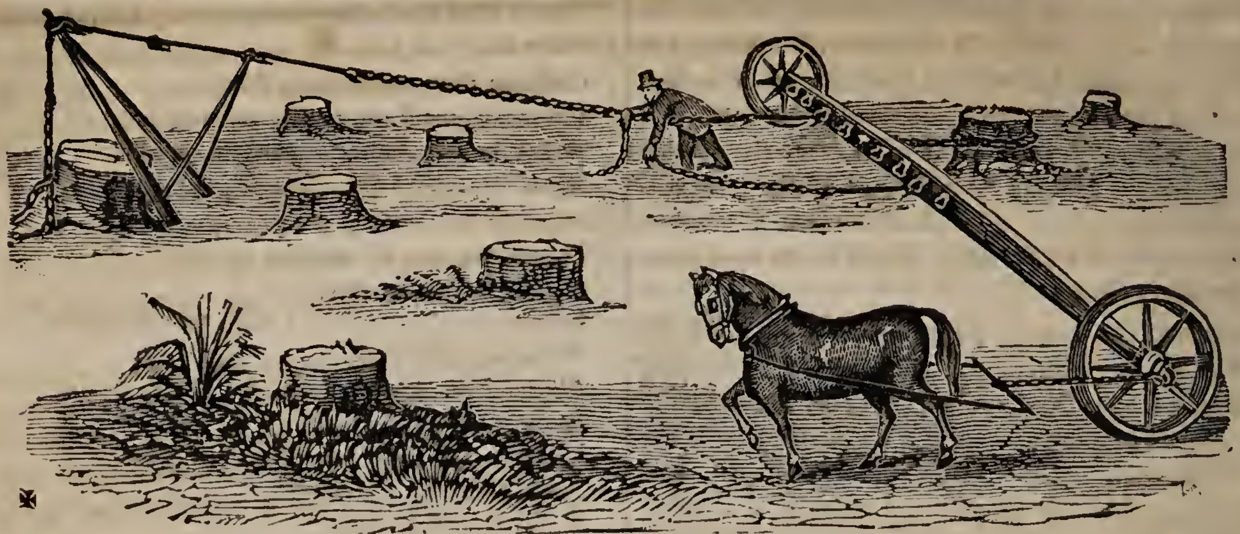
[The following was received too late to test its efficacy this season, all aphides in this reigion having disappeared. Of the remedies, yet tried, whale-oil soap has been found most effective, and common strong soap-suds nearly its equal, and both greatly superior to tobacco water, unless the latter is made very strong, or stronger than a common decoction in hot-water.]

If you have any species of the aphis in your nursery, please make a trial of the following decoction:—Get from a druggist ½ lb. of Quassia, boil it 15 minutes in six quarts of water; pour off the decoction into a dish pan with handles. When cool get an assistant to hold the pan while you carefully bend down and immerse the branches—giving them a little motion to wet all the insects. Look at your trees two days after; and if the aphides are dead, and the tender shoots uninjured, use and recommend the quassia and let the whale-oil soap perform some other office.

For young and tender buds or grafts, I use the spray from a nearly spent syringe where it is not safe to bend them over the pan. Most resp'ct. yours, E. G. Mygatt, M. D. *Richmond, McHenry county, Ill., July* 23, 1851.

◆

Protection against the Curculio.—It has frequently been remarked that fowls were more or less a protection against the curculio. A striking example of this has been shown the present season in the grounds of Wm. H. Southwick, New-Baltimore, N. Y. He has many very handsome plum trees, of good size, healthy, and vigorous. Several of these trees of different kinds, are enclosed in yards where fowls are kept—separate enclosures being necessary for the different breeds which are here bred. The trees in the fowl-yards are loaded with plums, while on the trees not so enclosed, almost all the fruit has been lost by the sting of the curculio.



STEWART'S PATENT STUMP-PULLER.

The Farmer's Note-Book.

Stewart's Patent Stump-puller.

The above is a representation of a machine which has been successfully used in several parts of this state and in the New-England states, for extracting stumps. The cost varies according to the size and power of the different articles—they being designed to possess a "purchase" of 250 to 1000 tons, and are sold at $50 to $200 each—the size in most common use costing the former sum. The operation of the machine is very simple, and may be readily understood from the cut, by persons who have only a moderate share of mechanical knowledge. A single horse is generally used for working the machine, and this force is sufficient for most stumps, but some of extraordinary size may require an additional horse, or instead of horses, a yoke of oxen. The average length of time required for pulling each stump, is said to be about five minutes. For further particulars, inquire of Wm. W. Willis, the proprietor of the patent, Orange, Mass.

◆

Suggestions.—Information Wanted.

Eds. Cultivator—The usefulness of your paper, which no farmer who has read it for one year can deny, consists in a great measure in the facilities which it affords for the interchange of knowledge on subjects pertaining to agriculture. It is a field in which conflicting opinions can meet and receive judgment, and each volume is stored with a rich fund of experience, which is really invaluable to the young and inquiring farmer.

But it should not be forgotten that a large proportion of the supporters of the Cultivator, those with whom it is the most important to get the "worth of their money," are working farmers,—not proprietors merely, but men who cultivate their own land, milk their own cows, chop their own wood—men, in short, who do not rely upon the labor of others for their support. This class value an agricultural paper less for its theoretical speculations, or its fancy designs for houses and grounds, than for the published experience of practical and laboring men like themselves—the minute detail of experiments and farm management; the description of farm implements, and in short, everything which can interest a man who performs his work with his own hands, and who is, therefore, grateful for any suggestions which will lessen his toil, or increase its reward.

The Cultivator is not deficient in such information, but considering the extent of its circulation, and the number of its correspondents, it might have much more.

There are many points connected with agriculture, upon which I have never seen published essays, and the discussion of which, by competent persons, would be interesting and instructive to many of your readers. For instance, I have rarely seen anything in The Cultivator throwing light upon the subject of clearing and managing new lands, though its circulation extends throughout the western states, where thousands are now toiling in the midst of all the difficulties and privations of a pioneer life. There are many now in your state, known as "early settlers," who in their youth encountered and overcame all these obstacles, and who might now devote a little of that leisure which their successful labor has secured to them, in communicating knowledge,—much of which was gained, no doubt, by many a sad experience—and thus render the same road less rugged to others. Such information, to be really useful and acceptable to the class for which it is written, should embrace the minutest details.

The difficulties and privations which surround the pioneer, especially when he is wanting in capital, and his position is isolated, are far from trifling. The most accurate calculation, and the closest economy of his means, are necessary; and the back-woodsman will often display a degree of calculating management, and an intellectual energy, far superior, as I think, to the most cunning efforts of statesmanship, which the world is accustomed to admire so much, for his object is a nobler and more stimulating one; it involves the welfare of a family which depend upon his toil, physical and mental, for its existence.

Permit me to suggest one other subject, out of several that occur to me, an essay upon which would be very useful and interesting to the inexperienced farmer, but more especially to the green back-woods man.

To the working farmer, who constructs and repairs his own implements, puts up his own buildings, and whose ingenuity in these little matters is often severely taxed, an essay, by a competent person, upon timber and its uses, would be of great assistance. It should particularize the uses for which each kind of timber is best adapted. Our forests furnish an abundance of material, but in the selection for any particular purpose, a nice discrimination is often important. Timber that may be the *best* for one purpose, is perhaps worthless for another; white-oak will make a good plow beam, but for an axe-helve another kind of timber is necessary. Some wood is harder, some tougher, some more elastic than others; and information from a competent source upon these points, embracing the different properties, qualities, and uses of timber, would be very interesting and valuable to all those who have not had time to arrive at such knowledge by the tedious and crooked road of experience, and who are compelled to rely upon mere conjecture or hearsay.

Do not suppose that these remarks are intended as a criticism on the manner in which The Cultivator is conducted. I, for one, have derived from it too much profit and instruction to find fault with it. But though I regard the publication as most useful and valuable, I would be glad to see it become even more so, by enriching its pages with as great a share of information designed to assist and lighten the toil of the laborer, as that which is intended to increase the profits of the rich proprietor. W. H. C. *St. Clair, Mich.*

P. S. Moss on Grass-land.—I would like to get through The Cultivator, some information with regard to the cause of the growth of moss on new ground, and the best mode of getting rid of it, if there is any short of plowing. I have ten acres of sloping river bank, intended for pasture, of very uneven surface, with a thin grove of forest trees upon it, on which moss is springing up in extensive patches. Plowing would be impracticable, and even harrowing would be a difficult and necessarily imperfect operation upon such a surface. Is the shade of trees the cause, or will the grass eventually come in if it is let alone? Perhaps an answer to this, from some "one who knows," may instruct others as well as myself.

Drag-Roller.

Eds. Cultivator—Believing that stable manure may be increased in value five-fold over and above its worth as commonly applied, *by thoroughly intermixing it with the soil*, and knowing that soils by pulverizing, acquire a great increase of power to attract moisture from the atmosphere,—I have been using a drag-roller.* It is an implement of which I had read, and about which I had written, but which I never saw until we constructed one this spring. Its operation has been very satisfactory.

Having to cultivate some land for beets and corn which had been left in bad condition, we applied barn-yard manure, plowed it in, harrowed it well, and then applied the drag-roller. The effect was most extraordinary. When the clods had disappeared, the ground was plowed *again*, and the harrow drew up more clods to the surface, which were crushed in succession by the drag. The condition of one piece, containing about half an acre was most unpromising, being almost an entire mass of clods, yet in less than a day it was reduced to a fine tilth. The manure was so completely incorporated that but few persons would suspect that a heavy coat had been applied.

When my hired man came from the corn-field, where he had commenced hoeing, I inquired in regard to his progress. "I never hoed such mellow ground before," was his answer. We think the roots of the corn and beets, which can now pass in any direction freely and unobstructed, will present a fair account next fall. D. T. *Greatfield*, 7 *mo.* 8, 1851.

Hereford Cattle.

Eds. Cultivator—I did not intend to have said anything more in favor of the Hereford cattle, as I had made up my mind to let them take their chance until their *real value* should be *proved*. But as certain individuals are continually boasting of particular tribes of Short-horns, I am anxious to see the Herefords brought into fair competition with them. I think the New-York State Agricultural Society ought to do something to bring the different breeds to a *fair trial*. I am ready to "stand a brush" with any breed, and in any way the society shall point out. All I ask is "a fair field and no favor." My idea is that some of each breed should be placed in the hands of an honest, disinterested person, to try the experiment, and that the Society should pay the expenses. An accurate account should be kept of the weight and kind of food consumed; the beef, butter, or other products should also be weighed and disposed of, and the cattle which yield the greatest return for the cost of food, shall be deemed best.

I hope the Executive Committee will take this matter into consideration, and propose an honest trial. Wm. H. Sotham. *Black-Rock, N. Y.*

P. S. I send you the following extract from a letter I have lately received from a gentleman who has had some experience with Herefords. W. H. S.

Dear Sir—Having for a number of years taken a deep interest in Hereford cattle, and knowing that the country is mainly indebted to you for their importation, and knowing that you have had to stand up almost alone in their defence against the Short-horns, I take the liberty to write you in relation to them.

I am owner of a few Herefords which were descended from those you sold Mr. Luther Bingham. They have worked themselves into general favor among the Green Mountains. It is acknowledged that they are the cattle for this climate and section. A car load of two-year-old steers, (half-bloods) was sent to Brighton last winter, and though they had only been fed in the ordinary way, they brought $40 per head. They astonished the Boston butchers.

We hope you will not withdraw from the field, but will continue to plead the cause of the Herefords. The world will one day award the praise your efforts merit. Yours truly, John Gregory. *Northfield, Vt.*

---

* The *drag-roller* was invented by Thomas B. Gay, of Virginia. It resembles a roller without rolling, and only drags, grinding the clods to powder. Mine was formed of a hollow log about three feet in diameter; and two pieces of scantling passing through and bolted behind, admitted between them the tongue of the wagon. I think however, that one constructed of plank would be better, as it would strike both large and small clods *at the same angle*—would require less draft—admit of being heavier, and of course more effectual. It would also be less liable to *choke* to which ours was subject, if the ground had been recently moistened by rain.

Cultivation by Steam.

The subject of tilling the land by steam, has been earnestly talked of for several years, and some attempts to carry out the idea have been made in England. These attempts have generally been directed to the operation of plowing, either by a locomotive or a stationary engine. Various impediments have thus far prevented the proper performance of the work by either of these modes. Recently, the substitution of the *spade* for the plow, has been suggested, and a machine designed for *digging* the soil has been exhibited at the Crystal Palace. We have seen no account of the machine having been tried, and know nothing of its principle of action, except that the motion is described as *circular*—the spades being set in a wheel.

The discussion of the question of the use of steam for the purpose above mentioned, has brought out some valuable ideas, some of which may at least afford a clew that may ultimately lead to more or less success. We have been much interested in an able article on this subject, published in the *Agricultural Gazette*, from which we make the following extracts. In relation to the question whether the plow or the spade shall be the implement adopted, the writer says:

> It is not plowing, neither is it digging that we want. These are only *means*. What we want is the *end*: we care not for the process. Give us a *seed-bed*: show us the soil *comminuted, aerated*, and *inverted* six or eight inches deep, and we will not ask you *how it came so*.
>
> * * * *
>
> But if it is not plowing, and it is not digging, what is it? "Go to the mole, though dullard," (the old proverb might be travestied,) consider her *ways* and be wise—who, without any coulter, share or mould-board, without spade, hoe or pick-axe, leaves behind her in her rapid track, a finer mould than ever spade or rake produced, or the most careful-handed gardener ever used to pot his plants with. The very rabbit that scratches his hole in the ground, or the fox that scratches after him, or the dog that scratches after both—the whole tribe of 'claw-foot,' in fact—had scratched hard earth into soft mould, before ever the plow or the spade, or even the more ancient hoe, had broken ground on this planet.
>
> Let us begin from the beginning: let us take cultivation itself into thought for a serious moment, and analyze it into its simplest elements, dropping all conventionalities of plodding custom. What is it? How would you do it, if you had neither plow, nor spade, nor hoe, nor rake, to help you? Surely with the same tools that the Monks of La Trappe used, to dig their graves, and in like manner? If the mole, the rabbit, the fox, the dog, are not sufficient indications, take the hand of man, glove it with hardened steel, multiply it a dozen or twenty times, till you have an instrument as broad as Crosskill's clod-crusher, each hand or claw with its separate arm, forming the radius from a central shaft, which bristles all around with a forest of such arms, a sort of revolving Briareus, *not rolling*—let that be especially remembered—but steam-driven, a thousand *dog*-power if you please, for we must not even mention horses, or we shall drop back into the old Scylla and Charybdis of 'traction' and of 'rolling', two ideas to be eschewed like poison.
>
> Let us suppose the picture of this formidable looking cylinder and claws to be sufficiently described, for the moment reminding one at a distant view, of a half-breed between a hay-tedding machine and a Crosskill's clod-crusher—but unlike them, fundamentally distinct from any and every instrument that was ever seen a-field, as doing its work not by traction, not by its rolling weight, but *driven* by its axis, as the steam-paddle, the circular saw, the driving-wheel of the locomotive, are driven, supported by its own apparatus, and abrading the soil with its armed teeth, first cutting its own trench, burying itself to the required depth, and then commencing its onward task, *tearing down the bank*, (so to speak,) on the advancing side, canting back the abraded soil, earths' *saw-dust*, 'comminuted, aereated, *inverted*,' into the trench it leaves behind.

Salt as Food for Plants.

Professor Way, chemist to the Royal Agricultural Society, in a lecture on this subject, stated, as a conclusion to which his investigations had led him, that common salt was neither directly nor indirectly, a constituent of the food of plants. He stated, however, as his belief that salt did, in some instances, produce an action beneficial to vegetation, on some soils. He had not carried out his investigations to such an extent as to say, positively, to what this effect is attributable, but he was "led to believe that the common salt acted on certain silicates of lime present, in a way as yet not understood; and at the same time as it afforded a supply of lime to plants, gave rise, probably, to a modification of silica, important to the straw of the cereals."

In reference to Prof. Way's remarks, other members of the society gave the results of their experience in the application of salt to land. Col. Challoner said he did not consider it acted simply as a manure on grain crops, "but it stiffened and brightened the straw, and caused it to ripen from 3 to 5 days earlier than it would otherwise have done." Mr. Barrow has found salt improve the strength and quality of his wheat straw, his neighbors' crops having been laid while his stood well. Mr. Mechi said —"without being able to give the scientific reason, salt gave strength and brightness to the wheat straw and prevented its lodging." He applied it at the rate of 3 cwt. per acre, mixed with the same weight of guano."

Virginia Lands.

Eds. Cultivator—I have received vast numbers of letters from every section of the country, from Maine to Illinois, making inquiries as to prices of lands in Eastern Virginia, quantity of crops, state of society, schools, and health of the country. I will state that any quantity of land can be bought within from 15 to 30 miles of the principal cities in the state, at from $3 to $10 per acre, according to improvements. Small farms of 100 acres or thereabouts, except in the immediate neighborhood of cities, cannot be bought for less than $20 to $100 per acre. As a general thing, the plantations range from 250 to 2000 acres, or more. Many want a small farm in the neighborhood of a pleasant country village. Such things are not often found. Our county seats often have no other buildings than the county offices and a hotel. For health, the country from about the head of tide water, to the Blue Ridge, is unsurpassed; it is generally well watered, with never failing springs of the purest water. Tobacco is the principal crop, to which all else must give way. The wheat crop will, perhaps, on the whole, fall short of 10 bushels per acre, although 20 or 25 are not uncommon, depending on the culture. The application of 150 or 200 pounds of guano per acre, will, on the poorest land, give 12 to 15 bushels per acre, and with a little extra aid will produce clover, which, when once seeded, is always seeded. Corn is the principal grain crop. Oats are largely raised, but this year, owing to an unexampled drouth, will produce little more than half a crop, except where guanoed. Wheat is excellent. Cotton is raised by most planters sufficient for home consumption. But little hay is raised, though there might be any amount. No pains are taken to make manure. The pastures are old fields and woods. Sheep are seldom fed summer or winter; but a few turneps, or the like, would probably not injure them, and they can be raised in any amount. The soil is generally a few inches sand; sub-soil clay. No land retains manure better, or shows a more lasting effect from it. The usual team for plowing is one horse or mule, the plow going to the depth of about three inches. The lands may be one-third in natural growth—oak, hickory, pine, poplar, &c.; one-third in cultivation; balance turned out and grown up, in many instances, with a heavy growth of pine—the second growth is invariably pine—many trees two feet through. Many farmers, however, are improving their lands by aid of lime, guano, deep plowing, clovering, &c.

For fruits, we have every variety—apples, peaches, plums, quinces, cherries of every variety, grapes, figs, &c. Of the smaller fruits, we have whortleberries, the bushes of some of which grow 15 feet high, black berries nearly as high. Strawberries and cherries ripen in May; apples, from June to March; peaches, July to September; melons at the same time. For apples, the Albemarle Pippin is unsurpassed. You have no pippin at the north like it. It keeps late in spring.* Schools are scarce; churches generally convenient—Methodists, Baptists, and Presbyterians.

Many inquire whether it is not considered disreputable for a white man to labor. It is almost too foolish a question to answer; but I will say it is not, nor for a woman to labor. I know many places where the timber would more than pay for the land, and I will say, I know of no lands on which a flock of sheep would not more than pay double interest. Ewes drop their lambs early in January or December, consequently are early in market, and can be sent by steamers to New-York or Philadelphia, in 36 hours.

I would recommend, as a general thing, no individual farmers to purchase singly, but to buy several plantations, and settle 40 or 50 families in the neighborhood. If any one chooses to write me at Proctor's Creek, Chesterfied county, I will answer, if I can find time. S. Clarke, Jr.

P. S. I would say that I have received several communications, saying that land warrants,—purporting to be issued from the land office in Richmond, authorizing the surveyors of different counties to locate such warrants on any unappropried lands belonging to the state,—are offered by agents at one dollar per acre. It is not a swindle, exactly, but if any one wants such warrants, I will furnish such for $20 per 100 acres. The state owns large quantities of lands in Western Virginia, and it is very possible valuable locations may be found. Editors generally, might confer a favor by cautioning the public against paying any large amount for such warrants.

---

* We received some specimens of this apple a few years since, and thought it remarkably fine. Eds.

American Plows in the Great Exhibition.

Exhibition Buildings,
Hyde Park, July 21st, 1851.

Eds. Cultivator—After a vast deal of trouble, we have succeeded in having the foreign plows tried. On Saturday last we had the trial at Hounslow, about ten miles from the town. This was once the celebrated Hounslow Heath, where robberies were so common that no man dare pass over it without guard and arms—and with these he often was despoiled of his money, and frequently forfeited his life also. Now it is occupied by farmers, gardeners, and village residents, and is a place of attraction. To this place, from the town, it is one continuous succession of market gardens, and although the soil is naturally light, yet, by superior manuring, and cultivation, it produces a great number of crops in the season, and pays rents from $40 to $100 per acre, I am told.

The ground selected for the trial of plows was on a clover ley, only one year old, and as it was very dry, the soil clay, mixed somewhat with gravel, it was difficult to turn a fair furrow. The depth required was six inches, the width nine inches. We had entered, American, French, Bohemian, Belgian, Austrian, Dutch from Holland, Canadian, and the three English plows which took the prizes here in April last, and Ransom's plow, which we had at our trial in June, 1850. We were to have had them tested by the Dynamometer, which we insisted upon as a part of the trial, but to which the English judges demurred, as they do not pretend to try their plows by any test of draught. A very heavy rain, however, falling just as we had finished trying the plows, we were unable to test them with the Dynamometer, and have agreed to try those to which medals have been awarded, with the English prize plows, on Thursday next. We have a newly invented Dynamometer from France, by which the test is to be made. I am unable to give you a description of it, but will, after trial, endeavor to give you some idea of it. An English Dynamometer, working in oil, was upon the ground, which is a new one, and I think will work well.

We commenced the trial of plows under all the disadvantages of taking them out of the exhibition without the opportunity of scouring off the paint, with an English plowman most of the time, who had never held an American plow, and with all the prejudice on the part of most persons present, that you can imagine. When we brought up the first plow of ours for trial, Starbuck's No. 6, I heard from a number of Englishmen around—"that plow *can't do it, it will break*," and expressions like that,—but when the horses started, and the plow went through, and on its return, when the English plowman said *it held easy*, and the horses showed that their work was light, the tide suddenly ebbed. We were not able to adjust Starbuck's plow to turn nine inches wide—ten inches was the least we could do with it. We tried Prouty's No. 40, next, and that we adjusted perfectly to the rules, and when we had finished with that, the matter was settled that American plows could do the work. While we were trying them, an English gentlemen living adjoining the land we were plowing, who had seen me as soon as I arrived on the ground, asked the privilege of trying our plows *with one horse*, and took one of the plows to try it. I had one of Starbuck's No. 2, plows, with a coulter on the share, and he took that to another part of the field, and with one of his big horses, plowed with perfect ease, *six inches deep* and *nine inches wide*, without any extra effort of his horse. He gathered around him, as you may well imagine, a large crowd, and the wonder expressed was very amusing, The result of this was, that the gentleman ordered *this plow* on the spot, and before I left, gave the names of four others in the neighborhood, who were present, for the plows to be ordered for them. This gentleman said, after he had tried the plow, "I do not mind what the judges may say say about the plow, it *is the one for me.*" Had I with me fifty of Starbuck's plows, of medium sizes, I could have sold them to farmers before this.

We had four American plows tried—Starbuck's No. 6, Prouty's No. 40, A. B. Allen & Co.'s No. 20, and a Philadelphia cast-steel plow. The judges decided that they would award only one medal to each foreign nation. I endeavored to procure two, but as some of the nations had only one plow, and as the general rule had been adopted in some other cases, they would not change it. The medal was awarded unanimously, to Prouty's No. 40. Starbuck's No. 6, did equally good work, except that the furrow-slice was too wide. Taking into consideration all the embarrassments under which we labored, we are satisfied with the result. We have proved that what the London Times has said of our plows is utterly untrue—"that they are behind the age." I have an order from an English plow-maker, for one of Starbuck's plows for his own farm! and I have no doubt when he receives it, it will be multiplied for the benefit of others. He desired to take the one we had tried to-day, but as that was disposed of, he must wait, with others, until they can be forwarded.

We had at the trial to-day, some first-rate farmers from *the Tweed*, who are friends of Mr. Thomas Bell, and who were with him; and who expressed themselves greatly pleased with our implements. One of them, by-the-by, was present at the speech of Prof. J. before the *Berwick Club*—of which we had the account sent us. He says, that the report of the speech, so far as it went, in regard to our country *was true*, but that much more that was disparaging to us, was said—and that although he had never himself been in the country, he was satisfied that it was entirely over-drawn, and designed for a free-trade market here, and he so expressed himself to his friends on the spot. I have found, in traveling through Northumberland and Cumberland, among the farmers everywhere, attention to this speech and the "Notes," and I have taken the liberty to say, on every occasion, that Prof. J. could have written *a much better book*, if he had *known more about our country.* I directed their attention to a sample of wheat on exhibition at the Crystal Palace, from a portion of the wheat district which he said was being laid down to grass, because it was exhausted,—the whole field from which it was taken yielding 63½ bushels to the acre! This was a sample of Mr. Hotchkiss' wheat, from Lewiston, Niagara county, which received the first premium last winter at our annual meeting. I sent with the samples, the proofs which were presented to our judges—and there is not in the exhibition, anything that compares with it as to the amount raised per acre, and I have reason to believe that the judges who have passed upon it, will thus notice it in their report. I have also referred gentlemen, when they have mentioned this to me, to a single fact, which would show them at once, how fallacious these statements were—the quantity of wheat and flour exported to this country, (England,) during the last six months, taken from a Liverpool paper, being nearly double that of the year when Prof. J. was in our country.

I have made a very pleasant tour with Prof. J. in Durham, Northumberland, and Cumberland counties, where I visited a number of tenant farmers of the very best kind, who are making money, notwithstanding the depression of the times and high rents. I intend, whenever I may have time, to write out what I have seen and learned, and I think I can show our farmers how English farmers are enabled to live, with the great rents they are, in most parts of the country, still obliged to pay, notwithstanding the deductions that are made. The three great principles that a good farmer here relies upon, are these: 1st. *Thorough draining;* 2d. *High manuring*, with guano or other prepared manures, in addition to barn-yard manure, if required; 3d. *Thorough cleaning* of the crop, so that the grain or other crop shall *have all the nutriment* to perfect it, instead of leav- the greater share, (as is too often the case with us,) to support the weeds.

I became acquainted at our trial of plows, with Count de Gourcy, a distinguished French Gentleman, who is one of the most intelligent agriculturists that I ever met with. He has written several works on the subject of agriculture—his Travels in Scotland and England, you will find in our Library. He was formerly a practical farmer himself, on a farm of 500 acres, on which he introduced the best system of husbandry from England and Belgium, and he was subsequently connected for a considerable time, with the army of France. He has, for a number of years, devoted himself in the summer season, to visiting the different countries in Europe, passing months in the farming districts, examining minutely and carefully into the systems and practice which prevail, and taking notes of their stock, dairies, &c., and in winter, he copies his notes, and publishes them for the benefit of the farmers of France.

He spoke in very high terms of our plows. He had seen three of them in operation in France, which had been sent over by some American gentleman who had purchased Ramboullet sheep; but his name he did not recollect. They were, he said, so light, so simple in their construction, so easily operated by the peasantry of France, and so cheap, that he preferred them altogether to any other plows. He expressed himself highly gratified with the performance of our plows at the trial —said they had accomplished all that was desired.

He mentioned to me a very remarkable circumstance in the breeding of cattle, which seems, at least as far as tried, to have been successful. This was, the method by which a breeder can secure bull or heifer calves as he may desire. He said, if the cow is milked clean when she receives the bull, the produce will be a bull calf—if she receives the bull with a full udder, the produce will be a heifer calf. A farmer in France, whom he named, put seven cows, with their udders thoroughly deprived of milk, and the produce was five bull calves—two havfailed to produce any. I understood several other instances within his own observation, had uniformly resulted in the same manner. This is important, and certainly worthy of a trial. Whether anything of the kind has ever been observed in our country, I do not know. He says that the work of Guenon is universally credited in France, and that they are so particular with their dairy stock, that they use no male which has not the desired escutcheons. I went through one class of the cows and heifers at Windsor, with two intelligent French gentlemen, who came over by order of the government, I believe, and they did not pass a single animal without carefully examining the developments as suggested by Guenon. I believe the rule holds good, that those cows which are so marked, are uniformly fair milkers, although many excellent milkers do not have these marks. The Frenchmen say, however, that it is all important in the selection of heifers which have not had a calf, as you may, with reasonable certainty, select a fair milker. I find many Englishmen who have paid attention to the subject, and they came to the opinion above expressed.

I omitted in my last letter to say that the first prize Short-horn bull is said to have been sold for 500 *guineas*, to the Belgian government. Although he was a fine bull, I think the money could have been much better expended on the show grounds. Yours. B. P. JOHNSON.

The Science of Unimproved Farming.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., July 29, 1851.

MESSRS. EDITORS—It seems to me that we need a little change in our modes of arguing upon agricultural subjects. We have been accustomed to argue upon the necessity of improvement—have been endeavoring to convince the mass of farmers that they may better their practice in a variety of ways, and have given them what we consider incontrovertible proofs upon the subject, yet all, in many cases, without avail. They say that scientific farming is nothing more or less than an imposition upon the more gullible part of community; that scentific men know nothing of practical subjects, and that the poorest of all ways to make boys farmers, is to set them at studying the subject of their future profession in any other manner than following the plow, or swinging the scythe.

Let us then take up this view of the subject, and see what can be made out of it. The science of improved farming has met with its advocates, and numbers many followers; why should not the purely practical and let-alone system, have something publicly said in its favor? If it is really the true system, it ought to bear the test of printing as well as any other, unless it be that the very act of printing destroys all truth. The fact is, that the farmers want information, and are determined to have it from some quarter. If, as many of them say, the present book farming is all wrong, let us have something that is satisfactory.

One of the first points, and a highly cardinal one in the estimation of many excellent practial men, is that a young farmer, or a boy preparing to become a farmer, must carefully avoid anything like an extended course of study. Such a course is all very well for those who are to be professional men—they need it, and are benefitted by it. By such study they learn what has been done in their profession by others, they learn what remains to be done, and what is doing; they are thus enabled to commence their active life with clear ideas of what is before them, and with a full knowledge of that which is essential to their ultimate success. Nothing of this sort is necessary to the young farmer. If he is allowed to study anything relative to his profession, it will be the ruin of him as a practical man. A tolerable education in the district schools or academies, embracing the common English branches, is all that he can safely bear; anything farther than this will make him an improving farmer, which is closely connected with his becoming somewhat scientific. The unimproved farmer meditates deeply upon the curious fact, that in proportion as men are educated, so are they more likely to be filled with what he calls wrong notions, to commence trying experiments, and to advocate the reading of books.

Some persons might draw from this fact, conclusions favorable to the effect of knowledge upon the agricultural mind, especially as the results obtained by these reading farmers are frequently of the most satisfactory kind; not so, however, with our friend; he decides that the only way to prevent his boys from imbibing any of these ruinous modern fancies, is to confine them at home, to take them out of school at an early age, and to keep them hard at work on his farm. Thus they learn what work really is; they become used to it in every department, and by the time they are twenty, are able, perhaps, to lead off the hired men with the scythe, hoe, or cradle, to guide the plow or wield the axe, with any others in the country. This now, he says, is an education worth having; here is a boy who is able to take care of himself under any circumstances; he knows all of farming that is needful to be known, as much as his father or grandfather knew before him, and will pursue the good old track quietly, frowning down all innovations, for the very reason that they are novelties.

The farm, under his management, will run down gradually it is true, but that it has been doing steadily for the last twenty years; land is not as good as it used to be; but if it gives out entirely there is plenty more at the west, so that that difficulty can be overcome without any help from books. He is in fact a specimen of a farmer whose only literary education has been of a nature wholly unconnected with his business in life, whose practical education has been just that of the hired day laborers whose work he directs; he has had no advantages apart from those afforded by intercourse with his neighbors, whose experience is just that of his own father over again. These then, must be considered the fair results of a purely practical education. Are the farmers of our country content to be represented as such a class?

Whether content or not, this must be the most appropriate description of them, unless they depart from the strict line of their practical course. A young man cannot go into other districts to study farming under the best farmers without getting indirectly at least, the results of greater knowledge and science. This is a lamentable state of things, but it nevertheless exists. The men who in all parts of the country stand pre-eminent for their good crops, for their fine stock, and for their admirable management, are precisely the men who are most ready to acknowledge their obligations to science, and who have the most frequent recource to books for assistance and advice in every operation. This is a most unfortunate obstacle, but nevertheless one that actually exists; it is unfortunate because it ties the unimproved, entirely practical farmer, down to a narrow field. By condemning study he condemns all the results of study, unless he means to adopt the results of others' researches in an underhanded way; he cannot, of course, do this consistently, for if he once acknowledges that any one by study can make improvements in farming, it follows that he himself might also do something in the same way, and so this whole system of purely practical education falls to the ground. The unimproved system, then, not only shuts out books and study, but the results which others derive from them; this is obviously the only consistent course. If carried out entirely and fully, the advocates of the letting alone system would have occasion to rejoice in the sudden suspension of all progress that would ensue. They would be forever freed from all the urgent solicitors who beg that they will subsoil, drain, and clear their land, who desperately force upon them their prescriptions for concentrated and special manures, and who back their recommendations with facts and figures that are occasionally of a most stubborn character. The young farmers would be left to grow up in utter ignorance of the word improvement, and would scarcely possess more ideas than the team that they drive, as to the practicability of making any useful change in the old customs to which they had been trained.

Without books, without study, without lectures, the knowledge of any little advance which might occur here and there, would be as slowly diffused as it formerly was among the aboriginal inhabitants, and centuries hence would see our agriculture scarcely any better than now. This is no exaggeration; if we could blot out all of the works on agriculture, all of the periodicals, and stop all lectures on the scientific bearings of this subject, advance would be checked at once and forever, or at least for as long a time as such system should prevail.

While those who engage in other pursuits would be constantly improving, constantly discovering new means of successful and economical application of their labor, the farmers would remain at a stand, and would serve as an abiding representation of long passed ages.

Such is the fairest statement that I can make for the unimproved farmer; such I consider the legitimate carrying out of his principles; it is under such principles that we constantly hear book-farming decried, that we hear science spoken of sneeringly and contemptuously, that every proposition involving a change is looked upon, not as deserving investigation, but as a legitimate and natural object of suspicion. It is under the influence of such principles that so much of the fairest and most fertile portion of our country has been worn out and exhausted by cultivation, and that so much more is deteriorating still from year to year.

If a proposition for some appropriation to aid in the dissemination of knowledge, or the spread of scientific principles, among agriculturists, is brought forward in any of our legislatures, or other public bodies, it is, as a general rule, rejected or passed over, and often with contempt. Who, now, are the men that thus retard all progress and hang as a dead weight upon every effort? They are not lawyers, physicians or merchants; these are generally men of more enlarged views, who readily see the true bearings of such movements; they are in almost every case the *unimproved* farmers. These are the men who have remained asleep while the rest of the world has been moving on, who have been selected by agricultural communities to express their will, and who as the exponents of that will crush every forward movement.

If a speaker addresses a popular assemblage, in support of radical changes in the present system of exhausting culture, too generally pursued, it will not be the professional men who will dissent from his views, but the very men who would be benefitted by the change, and improved in their condition. Thus it is everywhere, the obstacles to improvement exist among the farmers themselves, and until they will move far more unitedly than they ever have done, its advance must still be slow.

I have endeavored to show what a system of unimproved farming would be if carried out in its fullest extent, and it may serve to convince all, that books and study of some kind are necessary. Those who feel that the present position of agriculture is not what it should be, must unite in bringing about a change. If the works now existing are not sufficient, if the systems of instruction proposed are not satisfactory, let the objectors exert themselves and produce better, but in the mean time, let all with one voice join to condemn the practice of the unimproved farmer, and to arouse him from his slumbers. Yours truly, John P. Norton.

Importation of French and German Merino Sheep.

Eds. Cultivator—George Campbell, Esq., of West-Westminster, Vt., in May last, returned from a tour through France, Germany, and Spain, bringing with him an importation of French Merino and German Merino sheep. William Chamberlain, Esq., of the firm of Chamberlain & Phelps, New-York city, is associated with Mr. Campbell in this enterprise. Receiving a polite invitation from Mr. Campbell to visit him and examine his sheep, and to be present at their shearing, I embraced the same, and received much pleasure from my excursion.

Mr. Campbell found no sheep in Spain which were, in his judgment, worth importing to this country. He says the flocks of sheep which formerly so highly distinguished that country, have melted away and become sadly degenerated by bad management. After a thorough inspection of the best flocks in the three countries, Mr. Campbell purchased about 100 sheep of Messrs. Gilbert and Cughnot, whose flocks are from the celebrated government flock of France, at Rambouillet, about 40 miles from Paris. This flock is descended from the importation of Spanish Merinos made by the French government in the year 1786. In "The American Shepherd," I find the following extract from a report concerning this flock, by M. Gilbert. He says—

"The stock from which the flock of Rambouillet was derived, was composed of individuals beautiful beyond any that had ever before been brought from Spain: but having been chosen from a great number of flocks, in different parts of the kingdom, they were distinguished by very striking local differences, which formed a medley disagreeable to the eye, but immaterial as it affected their quality; these characteristic differences have been melted into each other, by their successive alliances, and from them have resulted a race which perhaps resemble none of those which compose the primitive stock, but which certainly does not yield in any circumstances to the most beautiful in point of size, form, and strength; or in the fineness, length, softness, strength, and abundance of the fleece."

Again in the same work, I find it stated of the flock that,

"The fibre of the wool is very fine, quite equal to the best Merino in Spain, and is the very antipodes of that of which so much complaint is made by the manufacturer, of being harsh, dry, crispy, and wiry. The fleece opens of a brilliant creamy color within, on a skin of rich pink, and is soft, glossy, wavy and very even over the whole body; is exceedingly close and compact, and has a yolk free from gum, and easily liberated when it comes to be washed, but which protects the wool from the weather, and keeps it free from the dead ends that are so objectionable. It becomes of the purest white when scoured by the manufacturer, and still retains its mellow, oily touch, so grateful to the handling of good judges. Its felting properties are beyond dispute, making it a choice material for the manufacture of fine cloths."

After a close inspection of Mr. Campbell's importation, I am led to think that all I have ever read respecting the French Merinos, is very just. They appear to be possessed of constitutions as hardy and vigorous as those of our best native or coarse wool sheep; they are very square, finely shaped sheep, and by far the largest pure merino's I have ever seen,—indeed I have rarely seen larger sheep of any kind. Generally, they have heavy dewlaps, and large folds of skin on the neck, reaching back on the shoulders, and often nearly over the body, the wool growing thickly over them, and covering the head, and the legs clear down to the hoofs, so that the fleece, when shorn, spreads out into dimensions equal to a covering for two such carcases. The fleece is very thick and heavy, and fine enough for any body. I cannot but regard these sheep as a most valuable acquisition to our state, and am induced to believe them very valuable, among other things, for crossing with our best mutton sheep, thus refining the fleece of the latter, without deteriorating the carcase.

I will cite a few examples from minutes taken at the shearing, which are a fair average of the entire importation:

	Live weight.	Weight of fleece.	
No. 2,	85 lbs.,	11 lbs.	8 oz.
5,	89	13	
10,	120	12	
17,	105	14	12
20,	106	15	
26,	122	13	
31,	103	15	
39,	107	14	14
48,	97	14	
50,	92	15	
56,	74	16	
61,	109	14	

A buck 2½ years old, whose live weight was 224 lbs., sheared 21¼ lbs. It is proper to say that the wool was unwashed, and as clean unwashed wool as is ever seen; that the sheep are mostly yearlings, with one year's growth of wool; and that the fleeces had all sustained quite a loss on shipboard, from the wool being rubbed off and picked out, and eaten by the sheep,—a habit which I am told they are apt to acquire, when confined long at sea.

Mr. Campbell inspected several flocks of fine wool sheep while in Germany, but found them to be mostly Saxony, with very small carcases, and very short light fleeces. In Silesia, however, he found a flock descended from an importation of Spanish Merinos made in 1811, which have been bred with great care and purity. In size they compare well with the best Paular Merino's in the state of Vermont, but have a thicker, heavier, and finer fleece than our best sheep. For fineness, their wool will compare well with the finest Saxon. They have square, finely shaped bodies, and appear to possess hardiness and vigor of constitution. I again select from my minutes several samples, which will give a fair average of the shearing of the whole.

GERMAN MERINO BUCKS.

	Live weight.	Weight of fleece	
No. 18,	83 lbs.,	7 lbs.	6 oz.
76,	86	7	5
80,	99	8	8
13,	91	10	8

GERMAN MERINO EWES.

No. 4,	61	7	14
10,	71	9	13
15,	80	9	0
17,	75	9	8
19,	69	7	15

Both bucks and ewes of this stock are yearlings, with fleeces of 10 months growth, unwashed.

Mr. Campbell intends to exhibit several of his imported sheep, of both breeds, at our State Fair, the 9th and 10th of September next. Any information in regard to these two importations which may be desired, may be obtained by addressing Mr. Campbell, or Chamberlain and Phelps, 103 Front street, New-York city, or William Chamberlain, Esq., Red Hook, Dutchess Co., N Y. F. Holbrook. *Brattleboro,' Vt., Aug.* 1, 1851.

Cultivation of Cranberries.

Eds. Cultivator—Please accept a vase of Cranberry plants, of the variety known as the "Upland Bell Cranberry." Wishing to test the plants thoroughly, on the 1st day of June 1851, I removed a bed of these plants from rich upland soil into the poorest kind of loam—both soils being near Lansingburgh, and 100 feet above the Hudson—no swamp, muck, or brook in the vicinity. They were watered but once, which was at the time of setting. The plants were just budding at the time. Wishing to send you a specimen, I have taken them up while in bloom, and I think with but little care they will do well. It would be advisable to water them occasionally, the same as other plants. The new shoots of each year furnish the fruit which are of extra size and flavor. The plants the first year, yield but half the usual crop, after transplanting. I shall be able to send you this fall a vase of the plants in full growth and cultivation, with the fruit attached. Plants can be furnished in the fall, growing in pots with the fruit upon them, and fruit when protected from frost, will remain fresh upon the vines until they again blossom, thus forming a beautiful ornament for the window, garden or greenhouse.

The soil in the vase that I have sent you was taken up with the plants. The vines increase rapidly from runners, seeds and shoots, and will take root and throw up shoots wherever they touch the ground. This plant is easier cultivated than any fruit with which I am acquainted, and is perfectly adapted to almost every soil and location under good management. I also send you specimen plants of an early variety of the low bush cranberry which I took yesterday from a bog about 20 miles north of here. The blows were of a deep scarlet, and I should think the early buds extremely liable to be injured by late spring frosts. They are propogated differently from the bell variety, and the leaves presented the same shrivelled appearance while growing, that they do now after being taken up. The plants stand thick, scarcely any weeds or grass appearing among them, and cover, I should think, about two acres. I was informed by persons in the vicinity that the fruit is not large but of good quality. These vines were the largest *specimens that I could find after diligent search.* F. B. FANCHER. *Lansingburgh, N. Y*

◆

Rambouillet Sheep.

The first fine wooled sheep that were allowed to go from Spain, were selected from the best royal flocks of that country, and presented by the King of Spain to the King of France. Since about the year 1787, these several flocks have been mixed and bred together, under the control of the government of France. The Minister of Agriculture is annually elected, and has the control of the flock. He resides in Paris; but the Director resides on the farm at Rambouillet, about forty miles from Paris. He keeps the books, and registers the birth, death, and sale of every animal; which is known by its respective number, which is told by more or less notches cut in the ears, and the rams have an additional number, or figures burned upon the side of the horns. This method of registering, gives the lineage back for more than fifty generations.

These sheep are well sheltered throughout the winter, and at night during the summer. The lambs are allowed to drop in the month of January. These, and no other flocks in France, are allowed to graze unless attended by a shepherd and his dogs. There are no fences in France. The sheep are allowed to feed along side, and close to fields of wheat and other grain. It is wonderful and quite amusing, to see dogs protect the grain, though the flock may be within reach of it.

At Rambouillet, the surplus sheep of the government flock are annually disposed of at public auction, which takes place on Sunday. This year it came off on the the 27th of April. There were no ewes sold; but fifty-one superior rams sold at a price averaging about $210. Fifty of them were fifteen months old, and their average live weight was 186 pounds, as registered upon the books.

These rams are never put up at a less price than 260 francs. If not taken by bidders, they are withdrawn, and afterwards disposed of at private sale. All of the rams were sold to go out of France; nine of them only, were bought by Americans. The balance went to Russia and Australia.

Upon looking over this splendid flock of about 400, and other superior flocks of Merinos, in different parts of France, it was a wonder to me that none had gone to England, and but a short time since none had found their way to America. Probably one-sixth of all the pure Merinos, of this enormous size and weight of fleece, have been purchased by Americans, and a majority of them within a year. These sheep are not only superior for their great production of wool, but they will eventually supersede the best English breeds for mutton. SOLOMON W. JEWETT. *Weybridge, Vt., July* 8, 1851.

◆

Average Yield of Wheat in New-York.

We wish to correct a mistake contained in an editorial note in *The Journal of Agriculture.* It is laid down as a " fact," that " the average crop of wheat in the state of New-York, at this time, does not exceed 12½ bushels per acre." It is also stated in the same paragraph, that thirty years since this state averaged 30 bushels per acre, and that the state of Ohio at that time averaged 35 bushels per acre, and now produces but 15. We know not on what these statements are based, though we recollect having seen the following in Prof. MAPES' *Working Farmer*: " Such practical farmers have caused the wheat crops of New-York to fall from an average of 30 bushels per acre, to 12½ bushels, and of Ohio, from 35 bushels to 15."

The statistical returns of 1845, gave an average yield of the wheat crop for New-York, of 14 bushels per acre. This is the lowest average for which we have any data. It will be remembered that it was taken at a time when this crop, in a large portion of the state, was nearly destroyed by the " weevil," or wheat-midge. It was the injury done by this insect, and not the exhaustion of the phosphate of lime from the soil, (as stated in the note above mentioned,) which produced the deficiency.

We are inclined to think that a very general error has prevailed on this point. That many farmers have practiced an exhausting course of cropping is unquestionably true; but so far as regards the failure of the wheat crop in this state, we are confident that the *chief* cause has been the injury done by the insect referred to. We have numerous statements from farmers to this effect; that their wheat grew as well, and appeared as promising as ever, and that the only drawback to the yield was the shrinkage of the grain from the attack of the insect. This is supported also by the fact, that as the midge has decreased in numbers—which it has done greatly in the eastern part of the state, within the last few years—the crop has increased—the yield of the last two seasons having been equal to any ever realised here.

But what reason is there to believe that the average yield of this state ever amounted to 30 bushels per acre, or that of Ohio to 35 bushels? This statement seems altogether unsupported by evidence. As regards Western New-York, we have the testimony of the best wheat-growers, that the crop of that section has been heavier on the average, for the last six years, than it *ever* was previously. [See current vol. Cultivator, pp. 166, 167.]

Fashion makes foolish parents, invalids of children, and servants of all.

Trust him little who praises all, him least who is indifferent about all

ANSWERS TO INQUIRIES.

Yard for Fowls.—L. M. R., East-Plymouth. Common laths would probably be as cheap and convenient an article for this purpose as you could use. Set up stakes or posts, eight feet apart; nail on these, two strips of two inch plank, three inches wide—one strip a foot and the other four feet from the ground. Nail the laths on these, vertically, two inches apart. You can cover the top in a similar way.

Apples falling from Trees.—L. M. R. Apples fall from trees from various causes. It is usual for many more to *set*, than can be brought to perfection; nature, therefore, provides that the tree shall be relieved of its superfluous burden. Still it is not uncommon that more remain than can reach a full size, and become properly ripened. Fruit also drops prematurely from the attacks of insects. Apples are injured by the "Apple-worm," which is derived from an egg deposited by a moth. It eats into the apple, which causes it to perish. It is advisable that the apples which drop off, should be immediately disposed of in such a way as to destroy the worm which is generally in the apple at the time it falls. This may be done by feeding them to swine, or allowing swine to run in the orchard.

Composition for Roofs.—D. D. D., Ilion, N. Y. The article in our June number, contains all the information we can give on this subject. The article says the tar or pitch must be used *hot*, which, of course, implies that it must be heated, but we do not know whether it is necessary to *harden* it by boiling.

Sheltering Manure.—Answer to W. C. A., in our July number. Construct a shed, 30 by 15 feet, attached to a stable for 10 cattle, and have the manure thrown evenly over this space, and put upon it six hogs. I will engage that the manure will not get "fire fanged," or heated so as to injure it. He should also put eave troughs to his barn, and occasionally, in the warm season, conduct the water from the roof, on to the manure. If he will do this, I believe he may dispense with any chemical operation. He will find the swine excellent chemists in this matter. *Brooklyn, Ct.*

Seeding for Pasturage.—B. H. M., Morris, N. Y. We should sow the timothy or grass seed the first week in September, and the clover the following March, on a light snow. We have known clover sown with rye, in autumn, with good success; but there is risk of its being winter-killed on many soils, and to avoid this risk, it is safer to defer sowing till spring.

Management of a Reclaimed Swamp.—A Subscriber, Simsbury, Mass. If your ground is sufficiently drained, your first object will be to destroy the wild grasses, rushes, &c. If it is in a condition to be plowed, take a plow designed for a bog plow, which you will find at most of the implement stores in Boston, Albany or New-York,—and turn over six or seven inches of the surface as *flat as possible*; then harrow lengthwise of the furrows with a very light harrow, and sow it to red-top and timothy in the early part of September. If the furrows do not lie even, pass a roller over them before harrowing which will press down the edges. If some bull-rushes, or other worthless herbage comes up the next season, dig them up with a mattock, or some tool with a narrow blade, to break the soil as little as possible When the cultivated grasses get well set, it will probably be beneficial to irrigate the surface in the spring months —say April and May; but if the water is continued on through the season, it will bring in the wild herbage again.

NEW PUBLICATIONS.

The Book of the Farm; detailing the labors of the Farmer, Steward, Plowman, Hedger, Cattle-man, Shepherd, Field-worker, and Dairymaid. By Henry Stephens. To which are added Explanatory Notes, Remarks, etc., by John S. Skinner. Two vols. 8 vo. New-York: C. M. Saxton.

The Book of the Farm is a work which needs no encomiums. The author is Mr. Stephens, editor of the *Scottish Quarterly Journal of Agriculture*, known as one of the most sound and practical agricultural writers of the day. The edition here offered, was published under the editorship of the late J. S. Skinner, Esq., who added various notes of comment and explanation. The volumes are presented in a very handsome style both in respect to typography and binding.

The Journal of Agriculture.—We have received the first number of a paper with this title, published at Boston, edited by Wm. S. King and J. J. Mapes. Its leading object may be learned from the following extract from the introductory chapter: "So convinced are we that science is at the foundation of all improvement in Agriculture,—that it is the foundation itself,—that we desire and design to give it *a foremost place* in our pages." We shall rejoice at any aid which the farmer may receive from this or other sources. The number before us contains several very able and valuable articles, and from the known ability of the writers, we anticipate the reception of much useful instruction through this medium. It is to be published semi-monthly, at $2 a year—each number containing 32 pages, octavo.

Harper's New Monthly Magazine.—The number for August is highly entertaining. The leading article is one on the "Childhood and Youth of Bonaparte," by John S. C. Abbott, with six handsome illustrations. Among other good articles we notice "Village Life in Germany," "Infirmities of Genius," "Phantoms and Realities," "American Notabilities," by Lady Emeline Stewart Wortley, &c. Published monthly by Harper & Brothers, New-York, at $3 a year.

The Cottage Bee-Keeper; or suggestions for the practical management of Amateur, Cottage and Farm Apiaries, on scientific principles. By a Country Curate. Published by C. M. Saxton, New-York.

This is an English work of some reputation and will be found useful to bee-keepers in this country. Mr. Saxton has "got up" the book very neatly, both as to typography and binding. It contains cuts of hives, and fixtures necessary to an apiary.

Sward which is plowed early in September, will rot so as to become mellow in spring. If plowed late in the fall, it will remain tough, and the grass will grow the next season.

NOTES FOR THE MONTH.

ACKNOWLEDGMENTS.—Communications have come to hand since our last, from Dr. Melvin Barnes, F. B. Fancher, Hon. F. Holbrook, S. Clarke Jr., L. M. R., W. G. Edmundson, M. Butler, W. H. C., G. B. Smith, Wm. R. Sanford, J. W. Proctor, Levi Bartlett, John Johnston, B. P. Johnson, A. Marks.

BOOKS, PAMPHLETS, &c., have been received as follows: "The Illustrated Phrenological Almanac, for 1852," from the publishers, FOWLERS & WELLS, New-York——"Book of the Farm," by Henry Stephens, with Notes by J. S. Skinner, 2 vols., from C. M. SAXTON, publisher, New-York——Fresh Gleanings, or a New Sheaf from the old fields of Continental Europe,. (new edition,) and Reveries of a Bachelor, or a Book of the Heart, (10th edition,) both by IK. MARVEL, from the AUTHOR.

MEDITERRANEAN WHEAT.—The more this wheat is known, the better it is liked. Its earliness renders it almost proof against injury from the "weevil" or wheat-midge. It has generally escaped this season, though in some instances other kinds growing in the same field and sown at the same time, were considerably lessened in yield by that insect. This wheat makes good flour and the flour makes good bread. We never tasted better bread, than we ate a few weeks since at the tables of several families in Cayuga and Onondaga counties. We were told it was made from Mediterranean wheat, and that it was preferred to white wheat, if rightly ground, by families in which the proper management of the flour is understood—that the same quantity of it would make more and better bread. The millers know how to grind it better than formerly, and hence it stands better in market—commanding within three to five cents per bushel as much as the best white wheat. It yields well. Messrs. MCCULLOCH & KIRTLAND, of the Cantonment Farm, Greenbush, raised this season thirty bushels per acre on a field of nine acres, which eight or ten years ago, was so wet that it would only produce white birches, bushes, rushes and coarse water grasses. It was underdrained, and has since borne good crops of hay, Indian corn, and lastly wheat. The latter crop was sold as seed wheat, for $1.25 per bushel, to go to Fort Leavenworth, Mo., on an order to EMERY & Co., from the U. States Government.

FATTENING SWINE ON APPLES.—The evidence which has heretofore been published, in regard to the value of apples as food for stock, is supported by facts which are frequently brought to our knowledge. Mr. JAMES M. ELLIS, of Onondaga Hill, lately stated to us that he had been in the practice of using apples extensively for fattening hogs, for several years, and their value had been proved to be such, that he deems it an object of profit to produce pork by the aid of apples, but would not, otherwise, so regard it. He has a large apple-orchard, in which he allows his hogs to range most of the season. They are of much benefit to the trees by destroying many of the insects which the fallen fruit contains, and by keeping the ground loose and rich. As the fruit approaches ripeness, the nutriment increases, and the hogs thrive faster. When nearly ripe, those apples which are not readily marketable, and not suited to long keeping, are gathered and boiled, or steamed, are mixed with meal and the slops of the kitchen and dairy, constitute the food for fattening hogs. The meal is increased towards the close of the fattening process, being at last equal to one-fourth of the bulk of apples. Mr. E. informs us that his pork is always of excellent quality, and is so regarded by all who have purchased it—being solid, of good texture, and of superior flavor.

DRILLING WHEAT AND OTHER GRAIN.—The use of machines for sowing grain, is becoming more and more extended every year, owing to the manifest advantages which they have over the common mode of hand-sowing. The advantages have been, on different occasions, so fully set forth in this journal, that they need not be now particularly adverted to. Those who have used drills, have generally adopted them for sowing all grains. Their advantages are most manifest for winter wheat, but are very considerable for barley and other spring grain. Col. SHERWOOD, of Auburn, sowed all his grain crops of this year with one of Bickford and Huffman's drills, manufactured at Macedon, Wayne county, N. Y. A cut of this drill was given in our May number. He is confident that there is a great gain in the barley crop, by the use of the drill—particularly in the certain and quick germination of the seed, and the regular and uniform growth and maturity of the crop. His barley was very even, and everywhere alike over a large field. Col. S. thinks the drill makes a considerable saving in seed, besides insuring a better crop.

PAPER MANUFACTORY.—We are glad to be able to say that we have, at last, an establishment for the manufacture of paper in this vicinity. Mr. C. VAN BENTHUYSEN has lately erected and put in operation a mill for this purpose, at the village of Bath, on the opposite side of the river from this place. The building is made in the most thorough manner, and all the machinery and apparatus are of the most approved and improved description. The motive power is steam,—the engine of 100 horse power—and when the establishment is in full operation, it is capable of turning off 1,600 lbs. of a superior article of printing paper per day. The establishment will be the means of disbursing in this vicinity, for labor and materials, many thousand dollars which have heretofore been expended elsewhere.

"WHEAT AND BROMUS."—We observe in a Boston paper, an article with this heading. On reading it, we find it is an advertisement that an individual residing at Lancaster, Mass., offers for *seed* both wheat and "*bromus*." It will probably be recollected by most readers, that the term *Bromus* comprehends a genus of grasses, of which the well known "chess," or "cheat," (*B. secalinus*) is a species. It is hardly necessary to say that this is a great enemy to the farmer; and where suffered to grow among wheat, greatly depreciates the value of the crop. The genus comprises several species, some of which have formerly been cultivated as an experiment, as pasture or meadow grasses, but have been abandoned on account of their trifling value. The "field broome grass," (*B. arvensis*,) is, however, thought to possess some value for certain pastures, on account of its early growth, affording a bite for sheep and lambs. But most species are not much relished by stock. We do not know what species the individual alluded to, cultivates; but we think persons who wish to obtain seed wheat that will not "turn to chess," would do well to be cautious, lest some of the seed of the lauded "bromus" may be amongst it, and should prove to be the very thing which they should especially avoid.

Short-Horn Cattle.—We are informed that George Vail, Esq., of Troy, has lately purchased of Messrs. Lathrop, of South-Hadley, Mass., eight Short-horn cows and heifers. This herd has been well known for several years, and has comprised excellent animals. We are told that those purchased by Mr. Vail are mostly descended from a cross made with the bull Yorkshireman, bred by the late Thos. Bates, and imported by Mr. Cope, of Pennsylvania. We may say in this connection, also, that Mr. Vail reserved, at his late sale, fourteen head of his former herd—numbering most of his imported cows and their immediate offspring, by the bulls Duke of Wellington and Meteor. He will continue to use Meteor and Fortune until he shall recieve a bull of the "Duchess tribe" from England—having already sent out an order for such an one, as well as for two more heifers of the same family. We are glad to see that his enterprize and zeal continue unabated.

Mowing Machine.—Mr. Morgan Butler, of New-Hartford, Oneida county, informs us that he has used Ketchums's mowing machine for two seasons, and can cut with it an acre of grass per hour, with one pair of horses; that it cuts "as smooth as any farmer could wish;" leaves the grass spread evenly over the ground; that it will cut lodged grass, and that which is fine at bottom. He states that it is manufactured by G. W. Allen & Co., Buffalo. Price $100 to $115.

The Vermont State Fair at Middlebury, on the 10th and 11th September, will afford an excellent opportunity for seeing Black-Hawk and other stocks of horses—it being the intention of the breeders to make a full display on that occasion. A great gathering will also be made of the different families of Merino sheep—both of recent importations, and the most noted descendants of former ones.

Gooseberries.—We are indebted to Oliver Phelps, Esq., of Canandaigua, for a basket of very superior gooseberries, of the White-smith variety. Mr. P. has always had great success in the culture of this fruit,—seldom having had any blight; and he attributes the exemption to the bushes being syringed with soap-suds, while the fruit is forming.

Harrow and Garden Rake.—We thank our New-Brunswick friend for his kindness in sending drawings of these implements. The harrow he describes would, we presume, work well on new or rough land, but we do not see that it has any advantages over the "improved Scotch harrow," of which we may furnish a cut. The rake is similar to one in use here.

☞ The *fancy* in the poultry line, will find the Spanish fowls advertised by Mr. Lovett, the genuine article.

Cattle Shows and Fairs this Autumn.

STATE EXHIBITIONS.

NEW-YORK.—To be held at Rochester—all articles to be entered and to be on the ground before 12 o'clock on *Tuesday*, *Sept.* 16. On *Wednesday* the exhibition will be open only to the Judges, Guests, and Members of the Society—(any person can become a member by the payment of $1.) On *Thursday* and *Friday*, it will be open to all. Tickets of admission, 12½ cents.

AMERICAN INSTITUTE, New-York—Oct. 1, the Fair at Castle Garden will open to visitors at 8 P. M.,—6th, special exhibition of Dahlias and Roses at Castle Garden—7th, testing of Plow at White Plains—8th, plowing and spading match at White Plains—15th, 16th, 17th, cattle show at Madison Cottage, corner of Fifth avenue and Twenty-third street. Entries may be made on the 13th, 14th, and 15th, on the ground, or at any time previous by addressing A. Chandler, Cor. Sec., 351 Broadway—16th, anniversary address, in the evening, by Dr. Charles T. Jackson, of Boston.

VERMONT.—In pursuance of a call made by over two hundred of the agriculturists and raisers of stock in this State, a public meeting was holden at Middlebury, on the 16th June, 1851, at which it was resolved that a State Fair be holden at Middlebury, on the 10th and 11th days of September next. The main object of the Fair is to make an exhibition of our stock, our cattle, our horses, and our sheep. The public may be assured that the best specimens of Black Hawk colts, Morgan, Hamiltonian, and Exclipse stock, and of French and Spanish Merino, and other breeds of sheep, the best Durham, Ayrshire, Hereford, and Devonshire cattle, will be exhibited, and also the best specimens of native cattle, including oxen, cows, and young cattle. Officers and committees were appointed to carry the above resolution into effect—President, Hon. F. Holbrook, Brattleborough—Secretary, Maj. E. R. Wright, Middlebury.

NEW-HAMPSHIRE.—The State Fair is to be holden at Manchester—time not stated.

RHODE-ISLAND.—At Providence Sept. 10, 11, 12.

GEORGIA.—At Macon, Oct. 29, 30, 31.

OHIO.—At Columbus, Sept. 24th, 25th, and 26th.

PENNSYLVANIA.—At Harrisburgh, in October.

CANADA WEST.—Grand Provincial Exhibition at Brockville, Sept. 24, 25, 26th.

State Fairs are also to be held in *Maryland* and *Michigan*, but at what time and places we are uninformed.

NEW-YORK COUNTY SOCIETIES.

Oneida.—At Utica, Sept. 9, 10, 11 and 12.

Saratoga.—At Mechanicsvtlle, Sept. 9, 10, and 11.

Essex.—At Elizabetown, Sept. 17 and 18.

Lewis.—At Turin, Sept. 10, 11. Address by Hon. Horatio Seymour of Utica.

Cayuga.—At Auburn, Oct. 1, 2.

Greene.—At Coxsackie, Sept. 24, 25.

Oswego—At Oswego, Sept. 10, 11.

Farmer's Society of Otsego county, at Louisville, Sept. 25, 26.

Jefferson.—At Watertown, Sept. 10, 11.

Dutchess.—At Washington Hollow, Oct. 1, 2.

Albany Prices Current.

Albany, August 11.

Flour.—The demand for flour during the month has been very limited; the trade buying only for immediate wants, and that from the East and River being very light. Quotations show a decline in prices, and the tendency is still downward. Accounts from all sections of the Union, almost without an exception, unite in stating that the new crop of wheat will be more than an average one, and that the quality will be excellent. This will be so more especially with our own State, the samples already shown, bearing evidence of the excellence of the crop, and those shown in this city from Maryland, Virginia and North Carolina, in plumpness and brightness, compare favorably with the best samples of Genesee. Of the condition of the Canadian wheat crop, of which we had such bountiful supplies, we have heard but little, and that is favorable. The low prices at which flour now rules has attracted the attention of shippers, and notwithstanding the depressed state of the English market for breadstuffs, large shipments are making from New-York, the quantity sent forward since the 1st of July, from New-York alone, being 308,788 brls. of flour and 235,537 bushels of wheat, against

77,985 brls. of flour and 100 bushels of wheat, for the corresponding period of last year. The quotations in Liverpool on 26th ult. were, Western Canal 19s. 6da20s. 6d., Canadian 20s. 6da21s. 6d., Philadelphia 20s. 6da22s., Baltimore, &c. 20s. 6da22s., Ohio 20a21s. The sales here during the month have been about 26,000 brls., closing at $3.75a$3.87½ for Illinois, Wisconsin and common Michigan, $3.87a4 for straight State and good Michigan, $4.06a4.12 for Ohio, and $4.06a 4.18 for Genesee; fancies and extra rule irregularly from $4.50 to $4.25.

Grain.—The crop of new wheat of this State is now coming to market; the first sales were made on Friday last; both lots were afloat; one, a parcel of 1600 bushels from Wayne co., sold at 106c., for milling here, and the other, 1000 bushels, part of a load of 2600 bushels, from Onondaga county, sold at 106c. to go East. The first sale of new Genesee wheat last year was made on the 8th of August at 130c. to arrive, but the first sale made afloat was on the 9th of August, 1400 bushels Wayne county, at 128c. In 1849 the first sale was made at 133½c.; flour selling here both years at the times mentioned, at $5.75a5.87 for pure Genesee; the same quality of flour can to-day be purchased at $4.06¼a$4.18¾. The other sales of wheat during the month were at 92½c. for White Ohio, 100c. for Michigan slightly mixed with Genesee, and 107a108c. for Genesee; the sales reached 10,000 bushels.

In Rye we have no sales to report. Oats have fallen off both in supply and demand; the receipts of Western during the season, have been to a fair extent, but the bulk of the arrivals have been in an unsound condition; the sales during the month have been about 150,000 bushels, closing at 40a41c. for fair to good samples of Western, and 42a43c. for State. Corn continues to come forward very freely, especially Western Mixed, the greater portion of which is in an unsound condition and prices for this description range from 44a53c. for heated and damaged; the sales of the month add up 250,000 bushels, including damaged, quoted above, and 55½ for Western mixed and yellow round. The new crop of Barley is represented to be in good condition. Some samples have already been exhibited and contracts for future delivery made, but not to any great extent; the recent sales to arrive are 4,000 bushels two rowed, Jefferson county, to arrive by the first boats, at 75c., and 3,000 do. four rowed from Niagara county, to arrive by 8th Sept., at 70c. The quotations at Liverpool, on 26th ult., were, Wheat, white Genesee, 6a6s. 1d. per 70 lbs.; mixed do. 5s. 6da5s. 9d.; red do. 5s. 2da5s. 6d.; white Canadian 6s. 2da6s. 10d.; red do. 5s. 8da5s. 10d. Indian Corn, white, per 480 lbs. 29a30s, mixed do. 26s. 3da27s.; yellow flat 26s. 6da27s., and do. round 26s 6da27s. 6d.

Feed.—The sales are about 40,000 bushels at 10c. for bran, 15a 17½ for second quality and 100a106¼ for fine.

Whiskey.—The supply during the month for this market has been rather moderate; the sales have been about 600 brls.; the market closes at 23½a23¾ for Ohio, 23¾ for State and 24c. for S. P. brls.

Plaster.—Quotations for Nova Scotia are steady at $2.25, with free sales.

Hops.—The quantity in market is very light; sales are making of the crop of 1850 at 55a60c.

Provisions.—The retail demand is steady and quotations are unchanged; we quote new mess pork $15a15.50, do. prime $13. Beef, mess $10a10.50 and $6a6.25 for prime. Hams, 8½a10c. for smoked, and 7a7½c. for shoulders in pickle, hams 7a8c., and shoulders 6a6½c. Lard 9a9½c. Butter, 12a14c. for State. Cheese 5a7c. Included in the sales were 7500 lbs. pickled hams for California p n t, and 50 bls lard 9¼c.

Salt.—Bag salt is in steady demand at 9½c. for 20 lbs. and 8c. for 14 lbs.

Wool.—The operations in this market have been on a limited scale; the tendency of prices of all grades is downward. A sale of 10,000 lbs. medium fleece on private terms is the only transaction which has come to our notice.

New-York State Fair

In Rochester, Sept. 15th, 16th, 17th, 18th and 19th.

THE subscriber has been appointed local secretery, of the New-York State Agricultural Society at Rochester. Any inquiries respecting matters connected with the arrangements of the show grounds for the Fair, may be addressed to me.

Persons having articles for exhibition, who cannot accompany them to Rochester, can consign them to me, and I will see that they are taken proper care of, and the necessary entrics made at the business office.

JAMES P. FOGG.
Rochester, Aug. 1, 1851—2t. Local Secretary.

SENECA LAKE HIGHLAND NURSERIES,

Catharine, Chemnng Co., N. Y., near Havana Depot, New-York and Erie Railroad.

LARGE size Fruit Trees for Orchard planting, all kinds. Dwarf Trees for yards, of the Pear, Cherry, and Apple, bearing size. Ornamental Trees and Shrubs, Deciduous and Evergreen. Climbers, Grape-vines, Raspberries, Gooseberries, Currants, Strawberries, Cranberry vines, Green-house Plants, Roses, Dahlias. The new and unequaled fall and winter apples, Douse or Hawley, and Wagener. Nursery Stock—Persons wishing trees to plant or sell, are referred to this fall's Descriptive Catalogue, for the great and unequaled inducements offered, as to PRICE and QUALITY, which will be furnished gratis, on application by mail.

Packages amounting to $10, will be sent free of charges, on the Erie Railroad, to New-York and Dunkirk, or any intermediate station. Sept. 1, 1851—1t. E. C. FROST.

Fruit and Ornamental Trees, at Cleveland, Ohio.

GIRTY & ELLIOTT.

THE collection of trees offered for sale by us this fall, has been selected and grown with great care. It embraces a large variety, including all the best varieties of Fruits; as well as all the *new* Shrubs, Roses, Evergreens, &c., &c., that have been brought into notice for a few years past.

Standard Pears of one, two and three years growth.
Dwarf do do do do do
Standard Apples, do do do do
Dwarf do do do do do
Standard Cherries, do do do do
Dwarf do do do do do

Plums, Apricots, Nectarines, Peaches, Grapes, Currants, Raspberries, Strawberries, Gooseberries, &c., &c.

EVERGREENS,

Of Norway Spruce, Deodar Cedar, Cedar of Lebanon, Tree Box, English Yew, Auricarian Pines, and Balsam Firs. Our stock is very good, and among them many of extra large size. All the new Pines, Spruces, etc., etc., are on hand, and for sale, of common sizes.

15,000 Balsam Firs, small—20,000 American Arbor Vitæ, small—1,500 yards Dwarf Box, for Border Edgings, very fine and thick.

Hardy Azaleas, Rhododendrons, Kalmias, &c.

ROSES.

A very large collection of Roses, and nearly all grown on their own roots, comprising the best selections of Remontants, Bourbons, Chinas, Teas, Moss, and climbing varieties.

Green-house plants in variety, and at low prices. Catalogues will be issued, ready for delivery, on the 1st of September, and forwarded gratis to post-paid applicants. GIRTY & ELLIOTT.
Sept. 1—3t.

Important to Farmers and Planters.

Mr. Editor—Through your columns, especial attention is invited to the following—

AT the next annual State Fair, to be holden at Rochester, in September next, I design to present for competition, a small *Portable Steam Grist Mill* (Conical Burr Stone) got up in a much more simple and cheap form than has ever before been exhibited; and challenge all manufacturers of Mills to a test; and that I will operate one of these Cone Mills, on the Fair ground, with 25 per cent less power than any other kind of mill that is made, doing the same amount of work in the same given time.

CHARLES ROSS,
Rochester, New-York.

EXTRACT FROM THE TRANSACTIONS of the New-York State Agricultural Society, 1848:—Another labor saving Machine, useful to the stock feeder, was offered in a Portable Grist Mill, with Burr Stone, horizontally placed, and capable of grinding seven bushels of food per hour.

As ground food for cattle leads to rapid fattening, these and such like Machines, may well claim the Farmer's attentive consideration.

B. P. JOHNSON, Secretary.

Agricultural Rooms, Albany, September 23d, 1850.—C. Ross,—Dear Sir:—In 1849, the Committee says, "that your Portable Grist Mill, performs well, and has been so often commended, that this Committee think they cannot add to its reputation.

B. P. JOHNSON,
Secretary N. Y. State Ag. Society.

N. B.—This Mill has taken the highest premium at the State Fair, for the last four years, it having been exhibited and worked by horse power, at Saratoga, Buffalo, Syracuse and Albany.

From the Georgia Telegraph.—Extract from Ex-Governor Troup, "Communication." Mr. Editor:—Valdorta, Laurens county Georgia.—I have tried the Patent Conical Burr Stone Mill, for grinding Corn, and have found it to answer admirably. No Planter that is not in the vicinity of a public Mill, ought to be without one, if he can afford to purchase, and his family is sufficiently large to require the use of it, otherwise I would suggest that several Farmers of a neighborhood, should unite to purchase one, in common, which being established in a central position, would be accessible to all.

Very respectfully, G. M. TROUP.

☞ Any further information may be obtained by letter, post-paid, or by calling on CHARLESS ROSS, Curtis' Buildings, Rochester, New-York. Sept. 1—1t.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by Henry Colman, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

GUANO.

THE subscriber has just received his supply of Peruvian Guano by ship Diadem, put up in bags weighing about 160 lbs. each, at 2½ cents per lb.
GEO. H. BARR,
Sept. 1—1t. State Agricultural Warehouse, 25 Cliff-st., N. Y.

HORSE POWERS.

EMERY'S, KELL'S, and WHEELER'S Railway Horse POWERS, for sale at the
STATE AGRICULTURAL WAREHOUSE,
Sept. 1—1t. No. 25 Cliff-street, New-York.

Devon Bull for Sale.

THE subscriber will sell at auction, at the State Fair, Rochester, (if not previously disposed of,) his prize Devon Bull He is five years old the past spring,—received the first prize of the N. Y. State Ag. Society, as the best Devon bull, in 1849. He was from an imported cow, and by a bull bred by Mr. Patterson, of Maryland. He is docile, and good tempered—is in sound health, and in every respect a good specimen of this esteemed breed.
R. H. VAN RENSSELAER,
Sept. 1—1t. Morris, Otsego county, N. Y.

TO WOOL GROWERS.

THE subscriber would again solicit the attention of those who wish to improve their stock of sheep to his flock of Merinoes, believing them to be equal to any, producing as much wool of a good quality, from a given amount of feed, as any flock that can be found. His flock consists of ewes and a few bucks. Bred pure from the importation of Consul Jarvis—bucks and ewes bred from Jarvis' ewes and a French Merino buck purchased of J. A. Tainter, Esq. Also a lot of lambs from an Atwood buck. Those wishing to purchase will do well to call and examine before purchasing elsewhere. Prices will be made reasonable to suit customers. For further particulars inquire of the subscriber. A. H. AVERY.
Galway, Saratoga co., Sept. 1—1t.*

Superior Cultivated Bell Cranberry Plants.

THIS new variety of the Cranberry, grown and cultivated upon ordinary upland, is intended expressly for garden and field culture, being extremely hardy, vigorous and productive well suited to almost any soil and location.

The vines can be sent to any part of the United States in the root, carefully packed in boxes at $7 per thousand or can be furnished growing in ornamental pots forming a beautiful ornament for the window, garden, or Greenhouse. Price $2 per pot.

Persons wishing for plants should order previous to the first of October next. Full printed directions accompany the plants.

Circulars giving full information, or specimen plants sent gratis, to all post paid applicants. Address F. B. FANCHER, Gen. Agent.,
Sept. 1—2t.* Horticulturist, Lansingburgh, New-York.

IMPORTED DEVON BULL FOR SALE.

THE subscribers will offer for sale at the auction held on the closing day of the State Agricultural Society's Show, at Rochester, in September next, (if not previously disposed of,) their thorough bred imported north Devon bull "Meguntiсook," which took the first prize at the fair of the American Institute in October, 1850.

Megunticook is now five years old, and was purchased by us from George Turner, of Barton, near Exeter, England, in the autumn of 1848, by whom he had been used the previous season. He was bred by Mr. Baker, of Devonshire, out of a cow got by "Silifant," one of James Quarterly's best animals, for which he got 100 guineas:—sire Prince Albert, which took the first prize at the Royal Ag. Soc. Show at Southampton in 1846; and was afterwards sold by Mr. Turner to the French government for 120 guineas. He is a very sure getter; and uncommonly gentle. W. P. & C. S. WAINWRIGHT.
Sept. 1, 1850—1t.* Rhinebeck, Dutchess county.

HURDLE FENCE FOR FARMERS.

A NEW and improved fence, much superior to anything of the kind now in use, formed of wrought-iron, possessing therein an unusual degree of elasticity and strength; when properly constructed and well placed, they will endure for years and never need repair. The improvement consists in the mode of security. The rails or wires instead of the eyes used in the older kinds through which the bolts pass to bind and strengthen the fabric, the fence is now made in sectional parts with slats in the posts so arranged that when in place they break joints with each other. This slat in one section extends upwards and in the other downwards and each rail is furnished with a loop or dead eye, turned on each end, which prevents it from passing through the slats. The usual screw is placed a distance of about three hundred feet apart and the entire fence may be tightened and prepared on the ground before it is set up. The iron clamps, foot of each post, are so turned as to present a flat surface of resistance to the earth Price $1.50 per rod, 12½ cents additional if painted. For sale by the patentee agent,—where samples can be seen. A. LONGETT,
Office of the State Agricultural Warehouse,
Sept. 1—1t. No. 25 Cliff-street, New-York

PARTNER WANTED.

THE advertiser has one of the best vegetable farms in New-England, and is desirous of obtaining a partner to take an equal interest in the raising of vegetables, the farm having been devoted to that purpose for some time past—some 60 acres are now heavily cropped with summer and winter vegetables, and the sales from the farm will amount to about $7,000 this year. An active single young man that can furnish $3,000 would be preferred. The farm is within a very short distance of a market that takes all the produce of the place at high prices. Any gentlemen wishing to establish a son in a safe agricultural business would find this a good opportunity. Address B. H., Office Albany Cultivator. Sept. 1—1t.

Golden Australian Wheat,

RAISED by Samuel L. Thompson, Esq., on Long Island, for sale in lots to suit purchasers.

CANADA WHITE FLINT, a superior article, also Mediterranean and Red wheat, for sale by GEO. H. BARR,
Sept. 1—1t. State Agricultural Warehouse, 25 Cliff-st., N. Y.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. have the pleasure to announce to their *patrons* and the *public in general*, that their stock of
FRUIT AND ORNAMENTAL TREES, SHRUBS, &c.,
which they offer for sale the coming autumn, is of the *very best* quality; and embraces everything in their line that can be procured in the trade.

Dealers and planters of trees *on a large scale*, will be treated with on as liberal terms, as can be done by any establishment of reputation in the country; they flatter themselves that for correctness of nomenclature of fruits, (which is a serious consideration to planters) that their stock is as nearly perfect as can be, having all been propagated on their own grounds, *from undoubted sources*, under the personal supervision of Mr. Saul.

They have propagated in large quantities, *all the leading and standard varieties*, which *are proved* to be best adapted for general cultivation, especially those recommended by the American Pomological Congress, at its several sessions, as well as all *novelties*, and certain kinds particularly suited to certain sections and localities of the Union, and the Canadas.

Their stock of Pear trees is the largest they have ever had to offer for sale, and among the largest in the country, and consists of over 50,000 saleable trees.

The stock of Apple trees is also very large, as well as Plums, Cherries, Apricots, Peaches, Nectarines, and Quinces, also Grape-vines, Gooseberry, Currant, Raspberry, and Strawberry plants in great variety, &c. &c.

Also Pears on Quince, Cherry on Mahaleb and Apple on Paradise stocks, for pyramids and dwarfs for garden culture, and of which there is a choice assortment of the kinds that succeed best on those stocks.

Deciduous and Evergreen Ornamental Trees and Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of *extra size;* such as Sugar and Silver Maple, Chinese Ailanthus, Horse Chestnut, Catalpa, European and American Ash, Upright lentiscus leaved Ash, Upright gold barked Ash, Flowering Ash, Three Thorned Acacia, Kentucky Coffee, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Auracaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews, Arborviteas, &c.

WEEPING TREES.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, gold barked Weeping Ash, Weeping Japanese Sophora, Weeping Elms (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Purple and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, Climbing and Garden Roses in great variety; such as Hybrid Perpetuals or Remoutants, Hybrid China, Hybrid Bourbon, Hybrid Damask, Hybrid Provence, Bourbon, Tea, China, Noisette and Prairie Roses; also Herbaceous plants in great variety, &c. &c., for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post-paid applicants.

A large quantity of Arborvitæ for Screens, and Buckthorn and Osage for Hedge plants.

Newburgh, Sept. 1, 1851—2t.

To Farmers, Gardeners and Nurserymen.

THE Lodi Manufacturing Co. offer for sale a freshly prepared article of Poudrette for fall use. It will be found a cheap, handy and lasting manure upon grass preceded by wheat or rye, also upon turneps, celery, &c. It has been found of great use upon lawns as a top dressing, and grass lands generally. It has also received great commendation for its efficacy upon trees and shrubs, particularly Evergreens and ornamental trees. Reference is made to A. J. Downing, Esq., B. M. Watson, Plymouth, J. M. Thorburn & Co. and others —also to the following letter:

Extract from a Letter of Hon. Daniel Webster, dated
WASHINGTON, March 19, 1850.

"If I neglect the annual purchase of some of this article, my gardener is sure to remind me of it. He thinks it almost indispensable, within his garden fence; but there are uses, outside the garden, for which it is highly valuable, and cheaper, I think, than any other manure, at your prices. A principal one, is the enrichment of lawns and pleasure grounds, in grass, where the object is to produce a fresh and vigorous growth in the spring. Our practice is to apply it when we go to town in the autumn, and we have never failed to see its effects in the Spring."

Price of Poudrette $1.50 per bbl. for any number over six barrels —and of Poudrette for *shrubs*, $2.00 per bbl. for any quantity—in both cases *delivered* free of cartage on board of vessel in New-York.

☞ Five shares of stock for sale in the Lodi Manufacturing Co. Dividend payable in Poudrette. Apply to the LODI MANUFACTURING COMPANY, 74 Cortlandt st., New-York.
Sept. 1—2t.

Mediterranean Wheat.

THE reputation this wheat has obtained for a few years past, has put it beyond doubt, that it is the very best variety for our climate and soil—being so early, it *entirely* escapes the ravages of the Fly. We have now a choice lot on hand, and offer for sale, at the Albany Agricultural Warehouse and Seedstore, 369 & 371 Broadway, Albany. EMERY & CO.

THE WATER CURE JOURNAL.

A NEW Volume of this "Journal of Health" commences in July, 1851. Subscribers should send in their names at once. The Philosophy and Practice of Hydropathy, Physiology and Anatomy of the Human Body, Dietetics, Physical Education, the Chemistry of Life, and all other matters relating to Life, Health, and Happiness, will be given in this Journal. We believe that man may prolong his life much beyond the number of years usually attained. We propose to show how. Published monthly, at One Dollar a year, in advance. Please address all letters, post-paid, to

FOWLERS & WELLS,
Aug. 1—2t. 131 Nassau street, New-York.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Best Fruit Book.

Sent by Mail free of postage.

J. J. THOMAS' American Fruit Culturist, with 300 illustrations, new (6th) Edition just published, price $1.00, on receipt of which post-paid, we will forward a copy by mail, to any P. O. in the United States, free of postage. Address

July 1—3t. DERBY & MILLER, Auburn, N. Y.

Youatt's Great Work on the Horse.

Sent by Mail, post-paid.

NOW ready, a new edition of "Youatt on the Ssructure and Diseases of the Horse, with their Remedies," also practical rules to buyers, breeders, breakers, &c., brought down to 1849 by W. C. Spooner, the celebrated English Veterinary Surgeon, to which is prefixed an account of the breeds in the U. S., by H. S. Randall, Esq., with 55 illustrations—price $1,50, on receipt of which post-paid (if mailed in presence of P. M., at our risk,) we will forward the work, postage paid to any P. O. in the U. States. Address, post-paid,

July 1—3t. DERBY & MILLER, Auburn, N. Y.

Fruit and Ornamental Trees, &c.

THE subscribers solicit the attention of Nurserymen, Orchardists, and Amateurs, to their present large and fine stock of Nursery articles.

Standard Fruit Trees for Orchards—Thrifty, well grown and handsome, of all the best varieties.

Dwarf Trees for Gardens—The largest stock in the country, and the most complete.

Dwarf Pear Trees—Our collection consists of well known leading varieties, and numbers more than 150,000 saleable trees. The superiority of these, being grown in this country, over imported trees, is well known to every intelligent cultivator. Nothing in fact in this country, can equal our collection of Pear Trees; they can be had from one to four years growth, some of which are now covered with fruit.

Dwarf Apple Trees—We cultivate in large quantities, the best and handsomest varieties of Apples on Doucain and Paradise stocks, for Dwarf and Pyramids, and can furnish them in large quantities from one to two years growth.

Dwarf Cherry Trees—All the leading varieties are cultivated, on Mahaleb stocks, extensively. We can furnish by hundred and thousand, from one to two years growth.

Cherry Currant—The largest variety known. Upwards of 1000 plants on hand.

English Gooseberries—All the best sorts.

Large Fruited Monthly Raspberry, that gives a crop of fine Fruit in the Autumn.

Strawberries—All the best sorts.

Ornamental Shade Trees—Of good size for Streets, Parks, &c., large and well grown.

Choice Trees and Shrubs, for lawns and pleasure grounds, including all the finest new and rare articles recently introduced.

Hardy Evergreen Tress—Norway, Spruce and Balsam Fir, of small size in large quantities, and a moderate supply of large ones, besides nearly *Ffty new and rare Evergreens*, including Deodar Cedar, Cedar of Lebanon, Chili Pine, Cryptomeria or Japan Cedar, Himalayan Spruce, &c. &c.

Roses, Pæonies—A large and complete collection, including the finest novelties.

Phloxes—A collection of upwards of 60 varieties, including 30 new varieties imported last spring.

Dahlias—Upwards of 100 select varieties, including the finest English prize flowers of 1849 and 1850.

The following catalogues, giving full information as regards terms, prices, &c. will be sent gratis, to all who apply by post-paid letters, or at the office:

1st. A general descriptive catalogue.
2d. A wholsale catalogue.
3d. Catalogue of Select Green-House Plants.
4th. A special catalogue of Dahlias and Bedding Plants for 1851.

ELLWANGER & BARRY,
Mount Hope Garden and Nurseries, Rochester, N. Y.
August 1, 1851—2t.

SAXTON'S COTTAGE AND FARM LIBRARY,

Volume First now ready.

THE Cottage Bee-keeper: or, Suggestions for the Practical Management of Amateur and Cottage Apiaries, on scientific principles, with an appendix of notes, chiefly illustrative. By a country Curate. Price 50 cents. To be followed by others, forming the most complete Series of PRACTICAL AND USEFUL BOOKS that has been offered to the American public for many years.

Aug. 1—2t. C. M. SAXTON, 152 Fulton, st., N. Y.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn. June 1, 1851—8t.

DRAIN TILE WORKS, ALBANY.

60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are nowprepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot	in length,	per thousand,	$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.
Bone Dust, Sawings, Shavings, and Crushed, at $2.25 per bbl.
Bone Black, or Burnt Bones, at $3 per hogshead.
Bone Waste, or Bone Manure, at 1¼ cents per lb.
Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.
Sulphate of Soda at 1 cents per lb; packages included at the above prices. For sale at the State Agricultural Warehouse

June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

Cottage Buildings, &c.

THE AMERICAN ARCHITECT—Now complete in 24 numbers, at 25 cents each single, or $5 for the work complete in numbers; $6 bound in two vols—the whole containing 24 beautiful designs for country residences, with plans, elevations, and estimates, varying from $600 to $5000. This is one of the most desirable architectural books ever published in this country or England.

Also, THE AMERICAN STAIR BUILDERS' GUIDE, in one vol. octavo, with numerous illustrations. Price $2.

Published by C. M. SAXTON, 152 Fulton street, and for sale by all the booksellers. New-York, August 1—2t.

GREAT PREMIUM BOOK.

STEPHEN'S BOOK OF THE FARM.

A Complete Guide to the Farmer.

A NEW and complete edition, revised and adapted to the use of Farmers in the United States, by

J. S. SKINNER.

This Book contains about 1200 pages, and embraces
EVERY SUBJECT OF IMPORTANCE,
connected with Agriculture in all its branches, with nearly
FIVE HUNDRED ILLUSTRATIONS
on wood and steel, making it one of the most attractive and
USEFUL BOOKS
yet offered to the Farmers in this country. Showing the best methods for acquiring a *thorough knowledge* of practical husbandry, with a portrait of the American Editor.

The publisher makes the following liberal offer to Farmers and clubs in order that every one may possess this valuable EVERY DAY REFERENCE BOOK.

Single copies bound in two vols. cloth,				$4.00
Two	"	"	cloth,	7.00
Five	"	"	"	16.25
Ten	"	"	"	30.00
Single	"	"	leather,	4.50
Two	"	"	"	8.50
Five	"	"	"	18.75
Ten	"	"	"	35.00

C. M. SAXTON,
Agricultural Book Publisher,
152 Fulton st., New-York.
Aug. 1—2t.

Farm in the Genesee Valley for Sale.

THE subscriber offers for sale his Farm of 212¼ acres, situated in the town of Avon, Livingston county, N. Y., and formerly known as the Tompkins farm.

On the premises there is a new dwelling house, in the Ornamental English Cottage style. The grounds are tastefully laid out with gravel walks and planted with shrubbery. The gardens contain choice varieties of peaches, grapes, &c., and the orchards the best grafted fruit. Attached are a carriage and ice house, barns and tenants houses. The farm is acknowledged to be one of the finest wheat farms in Western New-York.

It has been for years under the most careful and judicious cultivation—is highly improved and in a perfect state of repair. There are about 40 acres of woodland with superior timber.

The Buffalo and Conhocton Railroad now in progress passes thro' the town. The Genesee Telegraph line has an office in the place. The farm is distant about 3 miles from the Avon Sulphur Springs. This place offers inducements to purchasers. For further particulars apply to HENRY L. YOUNG, Avon, N. Y.

July 1—tf.

FARM FOR SALE.

THE subscribers offer for sale the farm, late the property of, and now occupied by Mr. Charles Van Eps, in the town of New-Scotland, Albany county. The farm is located about three-fourths of a mile southerly from the New-Scotland Church, and about seven miles from the city of Albany, by a good road. It contains one hundred acres of land, of the very best quality for grass or dairy purposes. It is a good grain farm, but is peculiarly adapted to grass. It lies well and handsomely, as to exposure, roads, water, &c. It is all in a state of cultivation except a few acres of wood necessary for the farm; there is not three acres of waste land on it. The house is commodious and comfortable. The other buildings and fences are not as good as the farm would warrant, but are sufficient in number and size, and in tolerable repair. The premises will be sold in fee—free from quit or rent. Title good and terms easy. For further particulars, address either of the subscribers.

J. D. DEGRAFF, Fonda,
D. C. SMITH, Schenectady.
August 1—3t Executors of John J. Degraff, deceased.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va. R. H. ARMISTEAD,

Aug. 1—3t. Executor and Com.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Bickford & Hoffman's Grain Drill.

THIS drill is made and sold by the subscribers, at Macedon, Wayne Co., N. Y. Of the large number which they have sold, not one has failed to give satisfaction. Decisive testimonials can be furnished from a great number of our best and most eminent farmers, that this drill is *more perfect as a whole* than any other of the many good ones which have been used in the country.

Since last year, we have added an IRON CASING to the *gear work*, to guard against the possibility of accident; the drill tubes are disposed alternately in parallel rows, sowing the grain in rows seven inches apart, and greatly facilitating the passage of the drill tubes among stones and clods. They sow with perfect evenness, whether on a level or ascending or descending a hill. Every part is made of the very best materials, and with great neatness and durability ☞ *Of the great number sold, not one has been returned, although each is warranted to sow all kinds of grain with accuracy and with satisfaction to the purchaser.* ☜ Subject to this warrant, we respectfully invite a free and full trial of the merits of this implement.

For an editorial notice and figure of this drill, see the June number of the Cultivator for this year, p. 209.

PRICES—$65 for 7-tube drill; $75 for 9-tube drill, and $85 for 11-tube drill. All orders addressed to the subscribers, at Macedon, Wayne Co., N. Y., thankfully received and promptly attented to, and shipments made at canal or railroad. BICKFORD & HOFFMAN.

Macedon, Aug. 1, 1851—2t.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton, Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square, Boston*, will be promptly executed. Boston, Aug. 1, 1851—12t.

A New Volume of the American Phrenological Journal.

COMMENCES July 1, 1851. Now is the time to subscribe. Devoted to Phrenology, Physiology, Magnetism, Physiognomy, Mechanism, Education, Agriculture, the Natural Sciences, and General Intelligence, profusely illustrated: it cannot fail to interest every class of readers. Every family, and especially all young men and women, should have a copy. It is printed on the first of every month, at One Dollar a year. All letters should be post-paid, and directed to FOWLERS & WELLS,

Aug. 1—2t. 131 Nassau street, New-Yor

Contents of this Number.

Agriculture of Ohio—Cultivation of Maize, by W. G. Edmondson, 289
Poultry and Poultry Books, by Observer,.................. 291
The Milk Establishment of Geo. E. Adams, by Hon. F. Holbrook,.................. 294
Harvesting Indian Corn,.................. 296
Show of the Royal Agricultural Society, by B. P. Johnson,.. 297
Cold Grape-Houses—the American Pomologist,.................. 301
Rotting of the Cherry—Inquiries and Answers—Cincinnati Horticultural Society,.................. 302
Horticulture not Forgotten—Qualities of new Strawberries—Hardy Pears—Remedy for Plant Lice—Protection against the Curculio,.................. 303
Stewart's Patent Stump-puller—Suggestions—Information wanted,.................. 304
Drag-Roller—Hereford Cattle,.................. 305
Cultivation by Steam—Salt as Food for Plants—Virginia Lands,.................. 306
American Plows in the Great Exhibition, by B. P. Johnson,. 307
Science of Unimproved Farming, by Prof. J. P. Norton,.... 309
Importation of French and German Merino Sheep, by Hon. F. Holbrook,.................. 310
Cultivation of Cranberries, by F. B. Fancher,.................. 311
Rambouillet Sheep, by S. W. Jewett—Average Yield of Wheat in New-York,.................. 312
Answers to Inquiries—New Publications,.................. 313
Notes for the Month—To Correspondents, &c.,.................. 314
Cattle Shows and Fairs—State of the Market,.................. 315

ILLUSTRATIONS.

Cold Grape-Houses,.................. 301
Stewart's Patent Stump-Puller,.................. 304

AGRICULTURAL IMPLEMENTS.

G. W. Girty.] **Girty & Elliott, Cleveland,** [F. R. Elliott.

KEEP constantly on hand and for sale, the largest collection of Agricultural Implements in the Western States. Every new pattern and improved implement is obtained and offered for sale as soon as manufactured. Farmers need have no occasion to send East for we can furnish everything desirable that is contained in any Eastern collection. Cleveland O., Sept. 1—2t.

SEED WHEATS.

GOLDEN Australian, White Soules, Beaver Dam, White Flint, White Chaff Bearded and Mediterranean Seed Wheat, selected with care from fields where but the one variety was grown. For sale by GIRTY & ELLIOTT,
Sept. 1—2t. Cleveland, Ohio.

To Farmers.

THE advertiser offers for sale in fee, or on lease for 99 years, renewable forever, four farms—containing from 150 to 180 each—located in Baltimore county, Maryland, 20 miles from the city of Baltimore, on the York turnpike, and within one and a half miles of the Baltimore and Susquehanna railroad—all of them having been heavily limed, and producing annually fine crops of corn, wheat, and grass.

For further particulars address JOHN MERRYMAN, Jun'r, Hayfields, Cockeysville P. O., Baltimore county, Maryland.
Sept. 1—1t.*

Devon Cattle at Auction.

I WILL sell at auction, the 11th day of September, the last day of the State Show at Middlebury, the following Devon Stock: One 3 year old Bull, bred by Stephen Atwood, of Connecticut. His grand sire and grand dam were imported. Two 7 year old cows, and one 2 year old heifer, all in calf; 2 heifer calves. One French Merino Buck, (perhaps two,) from Monsieur Cughnot's flock, the best in France. WM. R. SANFORD.
Orwell, Vt., Sept. 1—1t.

SPANISH FOWLS.

THE subscriber has for sale several pair of this beautiful breed of fowls, *warranted pure.* Specimens will be exhibited at the State Fair at Rochester. J. M. LOVETT.
Albany, Sept. 1—1t.

FOR SALE.

FULL Blood Shanghae Fowls, from a stock imported in the ship Canada, direct from Shanghae in February last. All orders promptly executed. WM. BULL,
Sept 1—2t.* Plymouth, Ct.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto. A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

ELLWANGER & BARRY,

Mount Hope Garden and Nurseries, Rochester, N. Y.,

WILL publish on first of August, *a new wholesale price Catalogue*, for fall of 1851, which will offer unusual inducements to purchasers of Nursery Stock in large quantities. Every person who intends purchasing in the ensuing fall, will find it to their advantage, (previous to sending their orders elsewhere) to be in possession of one of these catalogues, which will be furnished gratis to all post-paid applications or at the office.
Rochester, N. Y., Aug. 1, 1851—2t.

TO FRUIT GROWERS.

FOR SALE by the subscriber, an extensive assortment of the best varieties of the Pear, Apple, Plum, Cherry and other Fruit Trees; also Ornamental Trees, Shrubs, Evergreens, &c. &c.

Tulips in upwards of 200 choice varieties. 50,000 Buckthorn plants for hedges, one, two, and three years from the seed.

Pear trees in a bearing state, and extra sized fruit trees, always for sale. Purchasers are invited to call and make their own selection.
Sept. 1—2t. SAMUEL WALKER, Roxbury, Mass.

Apple Trees for Orchards,

For sale at the Nnrsery of J. J. THOMAS, Macedon, N. Y.

MANY thousand trees of large size, (mostly 7 to 9 feet,) and of handsome and thrifty growth, *including the best standard sorts, and the best new varieties,* and

All Propagated from Bearing or Proved Trees,

are offered for sale the present autumn, at *Fifteen Dollars per hundred*, or sixteen dollars if securely packed in wet moss and bound in strong mats, and delivered at canal or railway. The best selection of sorts will be made by the proprietor, in all cases where purchasers desire.

Also, an excellent assortment of proved and genuine Peach, Cherry, Plum, Pear, and Apricot Trees, Raspberries, Strawberries, &c., add a carefully selected collection of the finest Ornamental Trees, Shrubs, Hardy Roses, and Herbaceous Perennial plants.

All orders, accompanied with remittances, and directed Macedon, Wayne co., N. Y., will be carefully and promptly attended to.
Sept. 1—2t.

New Staminate Strawberry.

WALKER'S SEEDLING.

THIS new variety of the Strawberry is for sale and will be sent out, to applicants in the spring of 1852, price one dollar per dozen. Orders may be addressed to Samuel Walker, Roxbury, or to Mr. Azell Bowditch, at the Massachusetts Horticultural Seed Store, School Street, Boston.

The Fruit Committee of the Massachusetts Horticultural Society, report of the variety as follows:—"Walker's Seedling;" this strawberry has now been fruited three years; it is a dark colored berry, of good size, a very abundant bearer, of high flavor, very fine quality, and it will be, it is believed an acquisition. It is a staminate, worthy, as the committee think, of an extended cultivation. *Boston, June 28th,* 1851.

Fruit, Ornamental and Evergreen trees, shrubs, &c., for sale at the nurseries of SAMUEL WALKER,
Sept. 1—6t. Roxbury, Mass.

PREMIUM STRAWBERRIES.

WM. R. PRINCE & CO., Linnæan Botanic Garden and Nursery, Flushing, near New-York.

THE following varieties, and others, at reduced rates, by the dozen or hundred, and Descriptive Catalogues sent to all post-paid applicants.

Charlotte, Crimson Pine, Primate, Profuse Scarlet, Primordian, Hovey's Seedling, Burr's New Pine, Iowa, Crimson Cone, Black Prince, Taylor's Seedling, Prolific Swainstone, Lizzie Randolph, Eustatia, Montevideo Pine, Brilliant, Cornucopia, Le Baron, Refulgent, Theresa, Unique Scarlet, Unique Prairie, Old Early Scarlet, Serena, and the Alpine varieties. W. R. PRINCE & CO.
Sept. 1851—2t.

Wanted for the South,

A HORTICULTURIST who is experienced in his profession and can give satisfactory testimonials of his character. One with a small capital, or can bring with him a selected horticultural stock, will meet with a rare opportunity for investment, on application, post-paid, to the Editor of this Journal. Sept 1—1t.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND. C. F. Morton

NEW SERIES. ALBANY, OCTOBER, 1851. VOL. VIII.—No. 10.

Wheat Insects---Joint-Worm.

EDS. CULTIVATOR—The farmers of this county are greatly concerned and dismayed at the ruin of their growing wheat, proceeding from an insect that bears with us, the above designation. It is said that it has been known in your state; but of this I doubt, as I have been a subscriber to your paper for very many years, and have seen no notice of it. I have read in your columns of the grain-worm, (*Tipula tritici,*)* and think it probable, as this insect is unknown to us, it may have been hastily confounded with this new enemy, that has but recently appeared among us. To dissipate all doubt on this head, and to appeal to your information and researches, I beg leave to make you acquainted with this most formidable depredator on the wheat crop, through a few samples herewith sent, of the plants so injuriously affected by its deposites.

We frequently find woody fibre diseased, swollen out, and knotted, by the punctures of insects providing a nidus for their young. In the same way, this fly, emerging from the chrysalis state in the dry straw, from the first till the middle of May, deposites through a puncture in the leaf or sheath of the wheat, near the joint, its egg or young. The parts of this succulent texture thus pierced, take on diseased action, become indurated, and firm, as you will perceive, unsightly knots. At one time I supposed that the deposit was made in the stem, or joint; but repeated examinations have satisfied me that the disease was confined to the enveloping husk. If you will carefully and gradually pare away the surface of these knots, you will soon come across the cells formed in the wheat-leaf for the nidus, and discern in them, with the naked eye, the maggot. This examination is more usually made at the time of threshing, in August, when these worms have attained larger size, and more complete life. Then you will find in these hard and rugged excrescences, from four to ten worms to the joint. It hibernates as a chrysalis, and emerges, as I have before said, as a winged insect, about the early part of May, when it commences its fearful ravages on the wheat plants. Whether the worm finds a home in any other plant, I am unable to say; but from its rapid increase, our farmers are disposed to believe that it does.

Its modes of inflicting injury are different, according to the growth of the plant it attacks. If the head has started up out of the *boot*, it then attacks the husk around the joint next below; a swelling and knot are instantly formed, creating a sort of knee, and toppling the head down at different angles of inclination. At other stages of growth, it deposites near the ground, before the head-stalk appears, and completely prevents its exit. In every case, it operates by a species of strangulation on the plant, and finally starves it out, so that the juices no longer circulate, and the feeble heads dry up and perish. In this way, a wheat-field that is thus preyed upon, presents the appearance of a stunted, pale, decaying sedge, with here and there a few straggling heads of wheat, that, in case of their escape from the rust, would not reward the husbandman for the labor of gathering them.

It is difficult to convey to you a faithful picture of the complete destruction of the wheat crop, in many instances, by this insect. It is vain to think of reaping at all in many fields. The farmer is esteemed fortunate, where this insect has been three years, if he makes his seed and bread.

A friend of mine tells me he first saw this insect in some wheat grown from northern seed, and thought it must have come in some straw brought on with it. This was four years ago. Its first appearance in this county is usually dated not more than three years back. It exists now only in one half of this county, and, as I have been told, in some other counties to the north-east of us. The sphere of its ravages, is, therefore, restricted; but to our utter dismay, it seems to be gradually spreading abroad, at the same time that, instead of passing away from the scenes of its early devastation, it has actually, from year to year, so increased its ravages as to leave its early sufferers without hope for the future.

Your subscribers in this section of the country will be, doubtless, gratified by any information or suggestions you can afford them on the subject of this strange calamity to their great staple—the wheat crop.

I regret that I am not able to furnish you with a description of this insect. It has been hatched out in glass jars, by some of my acquaintances, but they could not give me that definite and minute delineation of it which would be required by the entomologist. They speak of it as a dark-colored gnat, with small wings, some want of activity, and little power of flight. If you are disposed to try experiments with so dangerous an enemy, I would be glad if you would take the trouble of bringing out some of these flies by exposure to strong heat, before their time, and handing them over to some naturalist in your midst, to enlighten us about their history, if they have any, or give us an accurate description of them. But lest I may be the means of introducing among you the most destructive pest, you will not consider me as recommending these insect acquaintances to your favor or mercy; but on the contrary, invoking for them the most careful and relentless extermination at your hands.

---

* The insect here alluded to, is what is commonly known as "the weevil," or wheat-midge, *Cecidomyia tritici*. EDS.

For fear you may not be able to find the maggot and its cell, you will perceive I have, in one or two instances, laid bare the latter, and, doubtless, the carcase of the maggot may be seen in it by the time these plants reach you. Most respectfully, Alex. Rives. *Carlton, Albemarle county, Va.*

On receiving the above communication from Mr. Rives, we sent specimens of the wheat-plant which he forwarded us, to Dr. Fitch, with a request that he would examine them, and furnish such remarks for publication as he might deem proper. He has kindly sent us the following very able paper, which comprises much valuable information in regard to insects which attack wheat, as well as to the "joint-worm" in particular. Eds.

Editors Cultivator—I communicate herewith, my notes and observations, on examining the wheat-plant which you received from Alex. Rives, Esq., of Albemarle county, Va., containing the insect designated the "joint-worm."

Bugs (Hemiptera) *upon growing wheat.*—I first observe, lying upon the infested stalk, the insect to which you allude in your letter, as perhaps having been hatched from the joint-worm. It is a small, oval insect with a very flattened body, six-hundredths of an inch long and scarcely half as wide, of a lively blood red color, with a band across its middle above, of a yellowish white color, occupying the two first or basal segments of the abdomen, behind which, in the middle of the back, are two black spots, one behind the other. Its six legs and its beak, or sucker, are of a honey-yellow color, and its horns or antennæ have the two basal joints light yellow, and the two terminal ones (which are enlarged, forming an oval, pointed knob) of a dark brown color. No vestiges of wings or wing-cases are discernible. This insect is plainly the young larvæ of some species of bug, of the order Hemiptera, and probably of the genus *Capsus* or *Phytocoris*. It is too immature for me to say anything more definite respecting it. But in this connection I may remark, that I have several times observed the eggs of insects of this family arranged in straight rows upon the leaves, not only of wheat, but of other grains and grasses, and have watched the larvæ coming from these eggs and feeding in their vicinity. These larvæ never have the form of worms, but resemble the perfect insects, except that their wings and wing-cases are not yet developed. They subsist upon the juices of vegetables, which they extract by means of a sucker, in much the same way that the musketoe obtains the blood of man and other animals. When first hatched, they draw their nourishment from the leaf that they are then upon; but as they acquire more size and strength, they wander away and live equally well upon other vegetables. Some of our species (the common squash or pumpkin-vine bug, for instance) seem to prefer plants of one kind, whilst others show no such preferences, but subsist equally well upon a variety of plants. I have frequently noticed, however, that plants that are weakened and diseased and of puny growth, are much more infested by these *vegetable leeches,* as they may appropriately be called, than those that are healthy and vigorous. The presence of this red bug, therefore, upon the wheat stalk from Virginia, is only accidental, or as a consequence and not a cause of disease. It cannot have been bred from any worm infesting the wheat-plants, as in none of the stages of their existence do insects of this kind have the form of maggots or worms.

The "joint-worm."—The wheat stalk, immediately above the lower joint, in the specimen before me, is obviously diseased for a distance exceeding a half inch. It is swollen to a size a third larger than it is above or below; it is changed to a harder and more wood-like texture; the veins are distorted and crowded out of their natural straight and parallel direction; and several long spots of a paler color and slightly elevated, like blisters, appear. On carefully cutting into these blistered-like elevations, a hollow cavity is found, which is nearly a quarter of an inch long, and tapering to a point at each end. In each of these cavities lies a footless worm or maggot, which is about ten-hundredths of an inch long by four-hundredths broad; of an oval form, rather more tapering posteriorly than towards its head; and divided by slight constrictions into thirteen segments. The worm is soft, shining, of a uniform milk-white color, and on its anterior end is a small V shaped brown line, marking the situation of its mouth. So exactly does this worm in its form and appearance resemble the larvæ of the Hessian-fly and the other species of Cecidomyia which have fallen under my examination, that I entertain no doubt that it pertains to the same genus of insects. And when we see it infesting the same part of the wheat-stalk with the Hessian-fly, and producing much the same swollen appearance of the stalk that the Hessian-fly causes, no person but one well acquainted with the habits of that insect would suspect that this was anything different. It is therefore important that the points in which these two insects vary from each other, should be carefully noted, that they may not be confounded with and mistaken for each other.

Differences between the joint-worm and the Hessian-fly.—As far as I am able to ascertain from the single wheat-stalk which chiefly shows disease in the plant before me, this worm differs in its situation and habits from that of the Hessian-fly, in the following particulars.

1st. The Hessian-fly worm occupies a natural cleft or partition in the wheat plant, to wit, between the sheath which is formed by the base of the leaf, and the main or central stalk or culm. Therefore, on drawing the leaf aside so as to part this sheath and separate it from the stalk, when it is stripped off downwards almost to its base, the Hessian-fly worm is exposed to view. This may be done without any cutting or tearing of the plant. The joint-worm, on the other hand, lives in the parenchyma or substance of *the sheath,* near its base. On separating the sheath from the culm and drawing it aside, the worm is not exposed to view: it lies in the texture that is thus separated, and can only be seen by cutting into the elevated or blistered spot already spoken of, which spots are equally manifest on the inner as they are upon the outer surface of sheath.

2d. The Hessian-fly worm is closely enveloped, its surface being in direct contact with and pressing against the inner surface of the sheath on the one side, and the outer surface of the culm upon the other side. It thus wholly fills the spot where it lies, and has no space for moving in any direction. This worm on the other hand does not fill the cavity in which it lies, its cell being larger and double the length of the worm. In this respect it differs not only from the Hessian-fly, but also from the wheat-midges, but coincides with some of our other species of Cecidomyiæ, the willow gall-fly, for instance, (*C. salicis*) which I described in the first volume of Dr. Emmons' Journal of Agriculture and Science, page 263.

3d. Two, three or more of the Hessian-fly larvæ and pupæ are most commonly found living in direct contact with each other, like a litter of pigs in their nest. This worm, however, is always alone. Though there are five worms in the stalk under examination, each has a cell of his own. They occupy, so to speak, different rooms in the same house, each individual having a room of his own, with no door for his exit or to admit a visit from his kinsmen.

4th. The natural cavity or hollow in the center of the straw, is but little crowded upon, and lessened in size by the larvæ and pupæ of the Hessian-fly. But with this worm, as appears from the single plant under examination, for a distance of over half an inch above the joint, the culm has been so crowded upon and compressed by the swollen sheath, that this hollow is entirely obliterated at some points and can be but faintly discerned at others.

5th. The natural texture of the wheat stalk is but little altered by the Hessian-fly larvæ and pupæ. On splitting and cutting the stalk, no evident dissimilarity appears in its substance, between the diseased and the healthy parts. Here, however, the diseased part is of a much more solid and wood-like texture than the unaffected part above it.

Miss Morris' Wheat-midge.—The differences now stated, show conclusively that this cannot be the Hessian-fly worm. Another insect so closely allied to the Hessian-fly as to have been confounded with it, is known to exist in this country; and I avail myself of this opportunity to make some explanations with respect to it. In 1840 and 1841, Miss Margaretta H. Morris, of Germantown, Pa., communicated to the American Philosophical Society and to the Philadelphia Academy of Natural Sciences, sundry observations which she had made upon an insect infesting the wheat crops in her vicinity, which insect she deemed to be the Hessian-fly, and pointed out what she consequently regarded as errors in the previous accounts of this insect. Her observations were extensively noticed in the agricultural journals of the day. In my history of the Hessian-fly, prepared for Dr. Emmons' Journal of Agriculture and Science, and republished in the Transactions of the State Agricultural Society for 1846, I found myself obliged to ignore the statements of Miss Morris, my own observations showing me that the previous accounts respecting the habits of this insect were unquestionably correct. Miss Morris, however, on the appearance of my article, re-affirmed that her observations were also authentic, and called upon me to say what her insect was, if it was not the Hessian-fly. As I had never seen her insect, I of course could not say what it was. Annually, in the latter part of June, when the wheat is in blossom in this vicinity, a small ash-colored fly, a quarter of an inch long to the tips of its wings, appears upon it in swarms. This fly is so closely allied to the Garden Hylemyia (*Hylemyia hortensis*) of Europe, that I am in doubt whether it is really distinct from that species. When recently captured, and ere it has become at all shrivelled by drying, it has a row of oblong black spots along the middle of its back, instead of a continuous black stripe, which the European species is described as having. This fly had been popularly regarded in this vicinity as being the wheat-midge which produced the little yellow maggots that had for several years committed such appaling havoc in all the wheat crops in this section of the country. And I could only conjecture that possibly Miss Morris had fallen into a similar error, as she lays much stress upon the fact that her insect appears abundantly upon the growing wheat in the month of June, and describes the female as being destitute of fringes to its wings. I was engaged in studying out for publication the habits and transformations of this fly, that I might incidentally thereto make some reply to Miss Morris, when I was much gratified to be released from a task so unpleasant, by observing in the proceedings of the Academy of Natural Science, for August, 1847, a notice from this lady, that she had received specimens of the insect which I had described, and that it was clearly distinct from the one which she had been investigating. In further confirmation of this fact, I may add that Dr. Harris writes me, he has received from Miss Morris specimens of her insect, which are not sufficiently perfect to enable him to define the marks which characterize it, but which show to his satisfaction that it is a species of Cecidomya different from the Hessian.fly. This point being thus definitely settled, I may remark that much credit is due to Miss Morris for having detected discrepancies and made discoveries which none but a close investigator would have been apt to notice; and that she should have confounded together two insects that are so very similar in their appearance and habits, can detract but little from her reputation. Mistakes more gross than this have in repeated instances been made by the most acute and experienced observers.

Differences between the joint-worm and Miss Morris' wheat-midge.—From the accounts given of her insect by Miss Morris, we are forced to conclude that it too, is different from the joint-worm of Mr. Rives. She throughout represents the larvæ as inhabiting the center of the the straw. We infer from her description that they are not imbedded in the parenchyma of the stalk, but are wholly within the hollow in its center, and that on merely splitting the stalk, they are to be observed adhering to the surface which is thus exposed to view. They moreover occur in all parts of the center of the stalk, from the root upwards, to above the last joint. Now this location is so widely different from that of the joint-worm, and of the larvæ of the Hessian-fly, as already pointed out above, that we must deem Miss Morris' insect to be different from either.

Conclusion.—As the result of this examination then, we arrive at the conclusion that the insect brought to our notice by Mr. Rives, is different from any of those with which we have hitherto been acquainted. It therefore forms an important addition to our knowledge of the diseases and casualties to which wheat is subject, a good crop of which all our farmers are more proud to grow, than any other which they cultivate.

One step more remains, to render our knowledge of this insect, and the disease which it occasions, so complete that it can be correctly designated and definitely spoken of in all time to come. The fly that will be hatched from these joint-worms requires to be scientifically named and described with such precision that it can be distinguished from the many other species of midges and gall-flies that are now known. This can only be done, by an examination of the living fly—for these insects are so minute, so delicate, and fragile, that dried specimens of them seldom show what their natural appearance and characteristic marks are. Happily, under the present postal regulations, by which our citizens are so greatly accommodated, light articles of this kind can be transmitted speedily, securely, and almost gratuitously, from one extremity of our country to the other. Specimens of insects, and of infested grain, straw, &c., respecting which any one is desirous of information, may readily be enclosed in a goose-quill, or some similar vehicle, and sent in a letter to any person conversant with matters of this kind, for his examination and opinion. It is, perhaps, now too late in the season for Mr. Rives to find any of the larvæ or pupæ of these insects among the stubble of the wheat-fields; but should they re-appear another year, by forwarding us portions of the diseased straw, at intervals, say of one or two weeks, when the worms are approaching the period of their maturity, some of them would be sure of coming to hand in a condition so healthy and advanced, that they would complete their transformations, and yield us living flies, from which a suitable description can be drawn. Should he be able to furnish us with such specimens, he will not only confer a personal favor, but be instrumental, we trust, in making an interesting and substantial addition, both to agricultural and entomological science. Yours truly, Asa Fitch. *Fitch's Point, Salem, N. Y., Aug.* 22, 1851.

AGRICULTURAL RESOURCES OF OHIO.

BY W. G. EDMUNDSON.

When the series of papers on the Agriculture of Ohio was commenced, the writer supposed they would extend through some six or eight numbers of the Cultivator; but circumstances have transpired which make it proper that for the present, at least, this feature of our correspondence should be suspended. The cause for this change may be readily explained, by simply announcing the fact, that a tour through Michigan, Illinois, and Iowa, is contemplated, and some notes by the way-side will afford, doubtless, very agreeable and entertaining subject matter for the readers of the Cultivator. It therefore, may be expected, that a pretty full description of the country bordering on the Upper Mississippi and her tributaries, will be given, embracing the peculiar features of the agriculture of the country through which we may pass, for the purpose of affording the general reader some reliable facts by which he may judge of the comparative advantages that are possessed by different sections of those new and flourishing states.

There are many matters of interest connected with the agriculture of Ohio, that deserve an extended notice, but owing to influences already explained, only a mere outline description can be given, and for the convenience of the reader, the remarks will appear under their respective appropriate heads.

Sheep Husbandry.—This branch of business is yearly on the increase, and is fast becoming a great favorite among the farmers in the older settled portions of the state. The extraordinary high prices paid for wool this season, have produced the conviction on the minds of many, that those rates will continue to be offered in future seasons, and hence almost a mania has been produced among those who possess large flocks of sheep, and in many cases, persons who have heretofore confined their operations to other branches of agriculture, have purchased sheep the present summer, and have seeded down their worn-out lands with the cultivated grasses, for the purpose of affording pasturage for their flocks. The number of sheep in Ohio may be fairly estimated at 4,000,000; these, at a low calculation, yielded a revenue of $2,500,000. Those who pay much attention in the selection, and are careful in providing their flocks of sheep with good wholesome summer and winter food, have no difficulty in obtaining an average value equal to one dollar per fleece. This, in connection with the increase of lambs, make it a business beyond all comparison, more profitable than any other branch of farming. Some choice flocks of full-blooded French Merino sheep have yielded, on an average, four pounds per fleece, which brought forty-five cents per pound, and in a few instances still better than this was done, though the flocks in the latter instance were not so large, and a portion of them were wethers.

In the eastern counties, those bordering the Ohio river, the full-blooded Saxon sheep may be found in great abundance; and the fineness of the staple of the wool cannot be excelled by any other portion of the Union. It must be admitted by all who have given this matter proper investigation, that Eastern Ohio, as a region for the production of a fine staple of wool, has no competitor on this continent. The soil and climate, and withal the tastes and habits of the rural population, are eminently adapted to produce this result; and if the prices for the finer sorts of wool be at all remunerative in future years, the flocks of sheep throughout all the hilly counties of the state, will be greatly enlarged. This region, embracing some fifteen to twenty counties, is capable of sustaining 10,000,000 sheep, without materially interfering with other products. The more sheep, the more clover the land can be made to produce; and the larger the yield of clover, the greater will be the quantity of wheat the soil is capable of producing. This doctrine is now pretty well understood by many of the old wealthy farmers of Jefferson, Harrison, Belmont, and other eastern counties of Ohio, who have realised large fortunes from their extensive flocks of fine wooled sheep.

Agents from eastern manufacturing establishments passed through all parts of the state during the winter months, and contracted for the fleeces with the farmers, many months before the sheep were shorn, at prices ranging from 30 to 60 cents per lb., and almost invariably paid a considerable portion of the money in advance. One farmer in Licking county, having some 600 head of fine wooled sheep, contracted for his entire clip at 45 cents per lb., and received in the month of January, on the same, *one dollar per fleece* on the contract. These and other influences of a similar character, have raised the expectations of the farmer a good deal higher, in relation to what they expect to realize from their sheep in future years, than can be reasonably obtained. The barbarous system of slaughtering sheep by the thousand, for the pelts, and tallow will be somewhat checked by the upward tendency of wool. In Knox county alone, some 30,000 sheep were slaughtered last autumn, which netted to those engaged in the operation, at least one dollar per head, clear of all expenses. Whilst the sale of those sheep produced a large revenue to the country immediately around those mammoth slaughtering establishments, it produced a direct loss to the owners and the State, from the simple fact that the clip of wool, which was two-thirds produced, would have yielded a larger amount of money than was obtained for the sheep; and besides, the stock, for a similar production in future years, would have been in the hands of the farmers, and the increase of lambs would also have been an additional source of income. Sheep can only be had at present, by offering twice the rates they could be had for last season, and unless a great change for the worse in the wool market should take place, there is no good reason why, in periods of three years at least, the flocks of sheep in Ohio may not be doubled, until the numbers equal at least 20,000,000. The attention of the farmers is strongly directed to the importance of adopting improved systems of culture and farm management, and upon trial this will be found difficult of accomplishing without manure, and the latter can only be produced through the agency of stock, among which stand foremost sheep for enriching thin and worn out lands.

Horned Cattle.—The herds of the improved breeds of British horned cattle found in Ohio, are confined almost exclusively to the Short-horns, or Durhams. In no part of the Union can so great a number of pure blooded Short-horns be found as in the Scioto Valley. Herds of from one hundred to three hundred each are frequently met with, that combine all the symmetrical points of the improved Durham breed of cattle, and are unquestionably as free from alloy, or mixture with American stock, as can be met with on any part of this continent. Ohio became stocked with Durhams through the praise worthy exertions of the "*Ohio Company for the Importing of English cattle*," which was organized in the year 1833. Some score or upwards were imported, at the start, of both sexes, and these by judicious crossings have stocked central Ohio especially, with a race of cattle that scarcely have any equal. The genial climate and rich soils that prevail along the whole extent of the Scioto Valley, are conducive to the improvement of horned cattle.

Some 30,000 head of fat cattle are fed and driven to the eastern markets from the Scioto Valley annually, and the average value of each ranges from $50 to $60, making the handsome business of nearly $2,000,000. Other portions of the State also drive a large number of cattle over the mountains yearly, but Ross, Pickaway, and Madison counties do by far the largest proportion of the business. In some instances from 400 to 600 head are fed by a single farmer and driven to the New-York and Philadelphia markets. The very best quality of clover and permanent pastures are furnished the stock during the summer months, and early in autumn they are turned into corn fields and owing to the openness of the winters require little or no protection, from the the snow or frosts, and by the early part of spring are well fattened. The stock for feeding consists almost exclusively of four and five year old steers, which net when in market from 700 to 900 lbs. each, of beef, hide, and tallow. It costs, at a low average, to get a drove of cattle from the Scioto Valley into the New-York market, from $10 to $12 per head, without including the loss of flesh sustained by driving, which may safely be calculated at $10 per head, reckoning beef at $7.00 per hundred lbs. which is much below the New-York price. When the central Ohio railroad is completed, the business of driving on foot, it is thought, will be rarely practiced, as a gain of from $5 to $10 per head will be obtained by transporting the cattle in cars on the railroad. When the three roads are completed, leading to New-York, Philadelphia, and Baltimore, the inducements for stall feeding beef cattle for these markets will be so great that it will doubtless be engaged in on a large scale. Ohio might and doubtless will do a large business of this kind, and when it becomes pretty generally adopted, it will afford an additional evidence of the wisdom of her farmers. The stock of barn-yard and stable manure is quite too limited at present, and when each arable farmer cultivating one hundred acres of land adopts the plan of stall feeding some six or eight six year old bullocks yearly for the Eastern market, then will the feeder become enriched by an abundant, annual supply of rich manure, and the crops of grain and grasses will afford ample proof of the wisdom of such a course of farming.

Dairy Business.—The north-eastern portion of the state, generally known by the appellation of "The Reserve," and of recent date by that of Cheesedom, is the great dairy district of Ohio, which consists of eight counties, inhabited almost exclusively by New-England people. It would be difficult to reduce any branch of business to a more perfect system, than that practiced by the intelligent farmers of the Reserve in their dairying operations. The cheese is shipped to New-York, Cincinnati, St. Louis, and other large emporiums of trade, and is put up in the very best style for market. Cheese factors purchase the green curd at the rate of from three to four cents per lb., of the farmers, and call at their doors regularly every week-day morning for it, and thus much labor and responsibility is got rid of in curing and marketing the article, and the business, on the whole, is better done than if each farmer pressed and cured the product of his own dairy. A single factor finds no difficulty in manufacturing the curd produced by a thousand cows, and in prosecuting the business to this extent, is warranted in investing a suitable amount of means in the erection of appropriate buildings, and in the purchase of economical appliances for its profitable prosecution. Both farmer and factor appear satisfied that a higher character is given the cheese in the market, and better prices are obtained for it, than if the old system was practiced. It imparts a uniformity to the appearance and quality of the cheese, throughout a large district of country, that no other plan could have so thoroughly accomplished; and on the whole, the system may with safety be adopted in any part of the union suitable to the production of cheese, where an abundant supply of curd can be obtained at a fair price.

HOG SLAUGHTERING ESTABLISHMENTS.—The farmers in the eastern states can form no idea of the extent of the pork trade of the west, unless they personally inspect the slaughtering establishments that are to be found in Cincinnati, and other large cities. 20,000 are very commonly slaughtered and packed for market in a single season, by one house; and the whole number slaughtered in these establishments annually, west of the Allegheny mountains, average 2,000,000, weighing each 200 lbs. of net pork, of which at least one-fourth are slaughtered in Ohio. The number packed at Cincinnati alone, equal 400,000 head in a single season. During the month of December, the latter city is crowded almost sufficient to produce suffocation, with droves of hogs, and draymen employed in delivering the barrelled pork on board of steamers. Some 1,500 laborers are employed in the business from six to eight weeks, and in many cases it is kept in full operation both day and night, including Sundays, from the beginning to the completion of the season. The Sabbath is not at all regarded by those who are extensively engaged in the pork business, and a stranger spectacle could hardly be presented to a person brought up in a land noted for its steady habits, than to see many of the main business streets of the Queen City of the West, literally crammed with waggons, carts and drays, employed in transporting hogs just from the hands of the butcher, from the slaughtering to the packing house, on the Sabbath. Indeed, this appears to be the great day for bringing up and completing the weeks' work, among the principal pork packers of Cincinnati; and as a very large proportion of the business is done in a densely populated portion of the city, it is not to be wondered at, that disease and pestilence infest these portions of the city to an alarming extent. The filth and dirt, and impure atmosphere, in a large portion of the upper end of the city, can be better imagined than described, all of which are the products of hog slaughtering and packing establishments.

The lowest price that the Ohio farmer can afford to raise and fatten pork, is $3.50 per 100 lbs. This, in an average of seasons, is obtained, and the past season, as high as $4.50 per 100 lbs. was paid for a large proportion of the best fattened hogs that found their way into market. If there was any certainty of hogs maintaining those prices, Ohio, without much effort, could supply annually one million that would net each a barrel of pork, which, with the lard, would give an annual revenue to the state of $10,000.000. At present, great preparations are being made to feed an unusual quantity the approaching season, and the average price throughout the entire summer, for store hogs, has been $3.50 per 100 lbs. net. The most extensive pork feeders fatten on standing corn, and as slovenly as it may appear, it is the most economical mode that can be employed in the west, where labor is scarce, and the productions of the soil are almost spontaneous.

HORSES.—The stock of horses throughout the state are not quite equal to what may be seen in the best farming districts of New-York. This may be accounted for in two ways—1st, from the fact that but few or no high priced stallions are supported in the state; and 2ndly, the best mares are bought up and driven east, by speculators. The horses are generally of a medium grade and when compared with those commonly seen on the Mohawk valley, would fall in the estimation of good judges, even below mediocrity. The great demand for horses, and the high prices they have brought this and the past season, will speedily bring about a salutary change in this respect. Ohio should stand first on the list among the states, as a producer of fine bred, and high priced horses, and through the agency of its numerous well conducted agricultural societies, doubtless, great changes in this respect will be effected.

As an evidence of the suitableness of the country for the business of rearing horses, one fact will be sufficient to illustrate the point. A respectable and wealthy farmer in Pickaway county, confines his operations almost exclusively to grazing horses and breaking them in for the eastern markets. Directly behind his stately mansion he has a field containing 1200 acres, which he calls his horse pasture. It was originally scrub oak plains and prairie, and a living stream of water passes through its entire length—clumps of trees are here and there left for the purpose of shade, and the whole has been from the first kept in permanent pasture, consisting principally of natural grasses and herds grass, or red-top.

The stock of horses are bought of the farmers in the surrounding country at the age of three and four years old, principally unbroken, and are delivered to the purchaser in the month of November. They are turned into pasture, and are wintered on the grass that is allowed to grow unmolested during the entire months of August, September, and October, which in favorable seasons attains the height of six inches. The snow scarcely ever falls so deep, but that the stock can paw it away with their feet and get sufficient to keep them in high condition. In the spring they are invariably in better condition than in autumn, and early in the month of June, men are employed to break them and sleek them up to drive east. The field is entirely cleared in July, and from that period up to the setting in of winter, no stock of any kind are allowed to roam over the field in question. It need hardly be added that the proprietor of the estate adverted to is accumulating property very fast, and we learned from one of his sons while inspecting the stock, that in an average of seasons each horse netted a profit of fifteen dollars, and besides the and which was naturally a thin soil, was yearly growing more productive and valuable.

The remarks on the agriculture of Ohio might have been greatly extended, but for the present, as has already been intimated, they must be brought to a close. On future occasions, however, we may have reason to make favorable mention of this state, which in point of natural advantages for rural pursuits has scarcely a superior either in America or Europe. Its natural resources are almost boundless, but man has yet much to do in their development.

American Reaping Machines.

The following letter from Mr. Johnson, was received by us too late for insertion in our September number, and it was therefore handed over to the editors of the *Evening Journal*, in which paper it was published, but it will be new to many of our readers, who will be much interested in its subject matter. Eds.

London, July 29, 1851.

Eds. Cultivator—On Thursday, the 24th instant, three of the Jurors on Implements proceeded to Mr. Mechi's farm, in Essex, (Tiptree Hall,) about 45 miles from London, to try the American Reaping Machines, and to test the draught of the plows. Col. Challoner, of the English department, Baron Martens, of Belgium, and myself, were the jurors. This day was selected at the request of Mr. Mechi, who held his annual festival for the examination of his crops, stock, &c. The day proved, as did that for the trial of the plows, one of the favorite days of England—that is, *rain incessantly*. We left here at eight o'clock in the morning, and arrived at Mr. Mechi's about 11 o'clock, and found assembled from one hundred and fifty to two hundred farmers and others, to witness the trial, as well as to examine the farm and its crops and arrangements. Mr. Mechi's wheat was not ripe, but quite green—the crop very heavy upon the ground, and every thing as unfavorable as possible for trying the Reapers. The people present were clamorour for the trial, and the person having Hussey's Reaper in charge placed it on the field, and a trial was made with it; but the grain was so green, that it soon clogged the machine, and it passed over without cutting it. This damped, as you may well imagine, the spirits of many who had hoped the trial would have been satisfactory. It was suggested by the other members of the jury, that we had better not try McCormick's; but I informed them that the machine was there for the trial, and it must be tried, as I could not consent that the gentlemen present, many of whom had come for the sole purpose of witnessing the trial, should go away with the impression that our Reapers could not do the work promised. McCormick's Reaper was accordingly placed to its work, and with a single span of horses, it went through the grain, green as it was, cutting all before it. When I ordered the machine stopped, the crowd around it, who had followed after very closely, were addressed by Mr. Mechi. He said to them: "Gentlemen—here is a triumph for the American Reaping Machine. It has, under all its disadvantages, done its work completely. Now, let us, as Englishmen, show them that we appreciate this contribution to our implements for cheapening our agriculture, and let us give the Americans three *hearty English* cheers!" They gave them, I assure you, *with a will;* and a fourth with a hip! hip! hurra! The Jurors then required the machine to cut another swath, so that it might be timed, and its powers ascertained. Accordingly, the machine was put in operation again, and cut 74 yards in length in 70 seconds, doing its work first rate, and to the satisfaction of every one present. At this rate it would cut twenty acres per day, during their usual hours of work here. A large number of the farmers present called upon me to express their great gratification at the result under such unfavorable circumstances; and said they considered the result a very great triumph for the American machine; and that it had fully redeemed everything I had said in relation to its capabilities.

Hussey's was afterwards tried upon a clover field and did the work well. A machine made after Hussey's, by Garrett, here, with some alterations, was tried upon a clover field, but would not work. The English machinists will learn, by-and-bye, if they expect to improve American machines, they must learn to work them—until they do that, their attempts to improve will fail, as this did. Another trial will be given when the grain is ripe, probably, for the satisfaction of many who were not present, and who are anxious to see the machines work.

You can hardly imagine how the tone is altered since we have had our implements tried. The "Prairie Ground" is filled with inquirers, and some gentlemen have found out that there are some people who know what they are doing in some other parts of the globe as well as this little Island, where, it is most readily admitted, there are many "clever" people. The McCormick machine was put together in the Palace again, and yesterday it had more visitors, I believe, than the "Ko-i-Noor" diamond itself!

The plows were tested by a dynamometer the same day, and the result I will give you hereafter. There was considerable difference in the land, and the subsoil was very tenacious and the average depth was quite large; and the trial not more satisfactory, on the whole, than in our trials heretofore, where, as here, in a half day, *twenty plows or more are tested.*

It is some little consolation, after all the taunts that have been heaped upon our implements, that we have been enabled, measurably at least, to put them in a proper position before the people here; and the orders we are receiving for our plows, as well as the award for our reapers, shows that we have made the people satisfied that our light, cheap implements can do all we promised they would do; and that they are very desirable implements to be used here. And I have not any doubt myself, that a manufactory of American plows here would very soon work a revolution in the implements in use here; but they must be made by our own manufacturers to be successful.

After the trial of the reapers, about 150 gentlemen sat down to a first rate dinner prepared by Mr. Mechi, and did, as you may well suppose, creditable justice to it. We had some of us, at least, worked well in the rain and mud, and bore *outward* evidence at least, of being *working-men*. Mr. Mechi presided, assisted by Lord Ebrington as vice chairman. Several speeches were made. Lord Ebrington, in giving the health of the foreign visitors present, remarked that it must have been truly gratifying to their American brethren, to witness the triumphant and complete success of the American reaper, which had done its work under great disadvantage, to the entire satisfaction of all present; and the occasion was one of very deep interest to all present. (Cheers.) He coupled with his remarks, the name of Prince Frederic *of Holstein*—who replied on behalf of the guests, in a very neat speech—and concluded with the health of Mr. Mechi, who responded in a straight forward speech that drew forth rounds of applause. In allusion to the reaping machine, Mr. Mechi remarked that we had to-day received from our American brethren, descendants of this country, the American reaper, which had been entirely successful. It was a fact worth remembering, that they had sent here a reaping machine that would *cut all the grain in England;* and this had been in operation in the United States seven years, and but for the Great Exhibition in progress, would have remained unknown to the farmers of Great Britain. It was a boon of no ordinary value, and was undoubtedly one of the most important improvements introduced into this country, to cheapen the production of food Several other speeches were made, and the company separated, after the labors of the day, well satisfied with what they had seen, and rejoicing in the result of the trials made. When the reapers were on trial, and the first one was breaking down the fine grain, Mr. Mechi was appealed to to have the trial arrested, as it was doing so much damage to his grain. His answer deserves to be written in letters of gold, for the benefit of every friend to improvement in agriculture, as well as for those who believe money is the only thing to be worshipped. He replied: "Gentlemen, this is a great experiment on trial for the benefit of my country—and if necessary to carry it out successfully, *take my seventy acres of wheat!* Individual interest must ever give way to the settlement of a great principle."

I shall furnish you, as soon as I have leisure, with a full account of Mr. Mechi's farm, its management, and what, in my judgment, is the complete success of his experiment: the reclaiming of a poor, hard and stubborn soil, and the production of as fine crops as I have seen in England, taking his whole farm together.

Mr. T. Bell, C. B. Miller, Esq. of Peterboro', the excellent secretary of the Madison County Society, and myself, were the only Americans present; the day being so very unpleasant, prevented several gentlemen from attending, who had expected to have been with us.

Farming of the Earl of Leicester.—Mr. Bell and myself left about 8 o'clock, and proceeded to Norwich, in Norfolk, about 80 miles distant, the same evening; and the next morning proceeded Holkham, about 32 miles from Norwich, the seat of the Earl of Leicester, and examined his fine Devon stock, his farm buildings, and farm. The stock was not so extensive as I had anticipated, though there were some very fine animals. He had six or eight beasts fattening for the Smithfield Show, that were very fine, and will prove, I imagine, severe competitors for the Short-horns and Herefords.

Twelve fine yoke of Devon oxen are employed on the farms, and their quick elastic tread was a subject of admiration, when compared with the heavy, loggy tread of the English cart horse, to be met with in the north of England, and in some of the middle counties. Mr. Keary, the bailiff of the Earl of L., was absent, so that we had not the privilege of seeing him, as we desired and expected.

The crops of wheat, barley, and oats, in Norfolk are remarkably fine. In fact, taking a district of 10 miles, through which we passed by different routes, I have never seen such uniform heavy fields of wheat and barley. The lots here are very much larger than is common in this country; and the system of farming is what is called here high farming. The common rotation of crops in Norfolk is:—1. Turnips, with manure; 2. Barley, with manure; 3. Clover or Beans; 4. Wheat, with manure, (special.)

The turneps are fed off on the field. On the Clover ley they manure with barn-yard manure and marl; the marl giving a better stand for the wheat. We saw the fields preparing for the crop of wheat. The clover is sown with the barley and mowed once. We saw at the Earl of Leiceister's, the Mangel Wurzel fresh as when pulled from the ground. They place them in the autumn in rows, about three feet high, three or four feet at the bottom, and cover with straw, and take them out as wanted. They were feeding some South Down and cross sheep for market with these and oil cake, and they were in capital condition. There are 1,000 to 1,500 sheep constantly on the farm, and they are sending them off to market regularly, and replace by purchase from the north. The fat cattle are in covered stalls, or rather yards, as they have abundance of room, well littered, with water and salt before them; and they are fed with oil cake, mangel wurzel, cut too fine, I think, and they feed them what they will eat.

The fixtures at the Earl of Leicester's are excellent, and everything about the establishment shows the greatest care, to the very smallest minutæ of the farm. They were threshing their wheat with a first rate portable steam engine, and the amount of work performed by it was very large.

Two English gentlemen, whom we met on our return to Norwich, informed us that the use of rape cake has proved entirely successful in arresting the ravages of the wire-worm in the turnep crop. They burrow themselves in the rape and that is the end of their labors.

After leaving Norfolk I took a day at Ipswich, at Ransom & May's great plow and engine establishment, and it is one of the most complete, as it is one of the most extensive establishments in this country. *Nine hundred men* are constantly employed. While I was there, five steam engines were being shipped for Lord Drombrieski, of Russia, for his gold and copper mines in Siberia, and a large lot of plows for Valparaiso; but I have not space or time to give a description of this eslishment, which I intend to do in full hereafter.

I visited a number of farms in Suffolk, where they have good farmers, but their land is not equal to Norfolk and their crops lighter. The Suffolk polled cows are altogether used for the dairy—they are very excellent milkers and a valuable breed. The Suffolk Punch horse is here found in great perfection, and they are the best breed of work horses I have seen. The horses are large, but clean limbed, good travelers, and very valuable. There are worth from £30 to £60. But I must close.

Yours truly, B. P. Johnson.

Sowing Wheat thick.—The Michigan Farmer informs us that Gen. Williams, of Lima, in that State, has been in the practice of sowing two bushels of wheat to the acre, the effect of which is small straw, always bright, rarely or never liable to rust, and increased product—and that others had observed a similar result.

ANSWERS TO INQUIRIES.

Bugs on Vines.—F. P., Lansingburgh, N. Y. There are several kinds of bugs which prey on vines—such as melons, cucumbers, squashes and pumpkins. The two species, however, which are most destructive, are the "yellow-striped bug," (*Galeruca vittata,*) and the "pumpkin" or "squash bug," (*Coreus tristis.*) The former will eat any of the plants mentioned, while they are in the first or seed-leaf, though it appears to prefer cucumbers and melons. The latter is more frequently, and indeed almost wholly, confined to squashes and pumpkins. As to means of protection for vines, boxes with cheap netting fastened over the tops, have been used to advantage while the plants are small, and it is in this stage they are most liable to injury. But it is well to examine the plants early, every morning, till they begin to run, fairly, and kill all the bugs, which at that time will be found mostly around the stem of the plant. The squash-bug continues it ravages through the summer, rearing successive broods of young, which feed on the vines. The only effectual way known to us of preventing their destructive course, is to regularly hunt and destroy them. The eggs are deposited in clusters on the under side of the leaves, and are of a bright yellow color, which makes them easily seen, and that part of the leaf to which they are attached, may be plucked off, which will usually prevent the eggs from heating, but to make this sure, they may be rubbed in the earth by the foot.

Planting Hedges.—C. E. R., Scipio, N. Y. The seeds of the Buckthorn and other thorns, may be planted in the fall. (See Cultivator for 1850, pp. 67–69.)

Raising Evergreens from Seed.—Inquirer, Providence, R. I. The seeds of the pine and most evergreens should be gathered in the fall. The cones, which contain the seeds of the pine may be collected about the last of October, and by being laid on a floor in a dry room, will open so that the seeds will drop out, in the course of the winter. If it is designed to raise plantations of pines, prepare the land in spring by plowing, and the seed may be sown in rows eight feet apart, either by a seed-drill, or by making shallow furrows and dropping the seed by hand and covering it with the hoe or plow. Squirrels and mice are very fond of the seeds, and if the cones are not gathered as soon as they fall, the seed will be likely to be carried off by these animals.

Gapes in Chickens.—C. R., Butternuts, N. Y. There is good reason to believe that this complaint is caused by a parasitic worm in the wind-pipe of the fowl. A successful remedy has in some instances been applied by extracting the worms. This has been done by taking a quill from a hen's wing, and trimming off the feathers to within about half an inch of the centre, pointed at the bottom. This was put down the wind-pipe, and twisted round, by which operation, some of the worms were drawn out, and others so loosened that they were coughed up by the fowl. See Cultivator for 1844, p. 305.

Drains of Wood.—T. S. E., Salem City, Oregon. If you can get neither tiles nor stones, you will probably find pitch-pine boards the best substitute. Take inch boards, ten feet in length, and eight inches wide. If the bottom of the drain is soft, one board should be laid on the bottom, and two others placed edgewise on this, leaning together at their upper edges. A drain may thus be formed, which in a tenacious soil will last many years, and will do much good.

Grass for Woods Pasture.—L. M. M., Va. Sow Kentucky Blue-grass—*Poa pratense*—a bushel of seed to the acre. You can probably obtain it in Baltimore or Richmond.

NEW PUBLICATIONS.

A Muck Manual for Farmers.—By Samuel L. Dana. Third edition, revised and enlarged. Lowell: James P. Walker.

Dr. Dana's "Muck Manual" has done the farming interest good service. It has been for sometime out of print, and we are glad that he has provided a new and enlarged edition. We presume, (though we have not critically examined the work,) that the author has improved it by such lights as the progressive knowledge of chemistry has been able to impart in regard to the composition of soils and the food of plants. We have no hesitation in recommending the work to farmers as one of a useful character, and from which many suggestions may be obtained that will aid the profits of their labors.

"Fresh Gleanings" and "Reveries of a Bachelor."—Our old friend and correspondent, Donald G. Mitchell, has favored us with his "Fresh Gleanings" from abroad, and his "Bachelor Reveries" at home. As testimonials of regard we prize them, but more for their real merit. No person, be he sage or youth, can read the simple, earnest language of that portraiture of meditative hours, without finding something to remind him of his own peculiar, and, as he had always supposed, unknown thoughts. The author will be claimed as a friend by all who peruse his reveries, and many will leave his companionship "happier and holier" men. We bespeak for Ik. Marvel the attention of those who enjoy the retrospect of youthful days, and would be pleased with the autobiography of what Carlyle would call a "beautiful soul." We hope to hear from him as soon as leisure will permit.

Lossing's Pictorial Field-Book of the Revolution.—We have received No. 16 of this interesting and beautiful work. It abounds, as former numbers have done, with original illustrations sketched by Mr. Lossing, and which are executed in a style not surpassed by any work of the day. We have said before, (what may with propriety be repeated,) that this work ought to be in every family in the United States. Published by Harper & Brothers, New-York.

Harper's New Monthly Magazine.—The September number contains a continuation of the biography of Bonaparte, by John S. C. Abbott. This article has six spirited illustrations. The next is an article, on the Treason of Arnold, by Benson J. Lossing, with sixteen illustrations. The number contains the usual amount of interesting reading. Published by Harper & Brothers, New-York, at $3 a year.

Notes of a Tour in Europe---No. 2.

Eds. Cultivator—We spent one day looking over the city of Madrid, while our courier was getting our passports vised, preparatory to leaving the country. This has to be done, as well to leave as to enter. This passport system is a very great annoyance, which every one will find out soon enough who travels in countries where they are required. My passports cost me considerable money, besides several days delay. It would have taken two days to have got them through the different offices, if our Minister had not interferred. By his assistance we were enabled to get them through in one day. The fees were between three and four dollars. Madrid is full of soldiers, like all other places where royality is supported. To go through the Palace and Queen's stables, and see the enormous amount of money it takes to support royality, and then consider that this vast amount of money comes from the pockets of the poor people, and then to contrast these with our plain republican institutions, must lead one, I think, to detest such governments, and lead him to appreciate and love his own.

Through the politeness of our Minister, (who accompanied us,) we were admitted to see the Queen's stables. We went first, partly through the carriage houses where we examined as many as 50; they were for different uses and times; some are private carriages, others for travelling, others for hunting, and others riding in state on different occasions; one which they showed us, they said cost eighty thousand dollars. We next visited the stables. I should judge there were 100 horses in them. They were for different purposes—for the carriage, hunting, riding, and for racing. They were nothing more than a middling lot, take them together. There were some very good animals, some English, a few Arabian, but mostly a mixed breed. I saw some fine mules in Madrid, and some in the teams in the north part of Spain, very large and strong. As a general thing the mules are quite small. They feed these horses and mules, as far as I could learn, wholly on cut straw and barley, dry—the barley without grinding.

We started from Madrid 21st of March, five o'clock in the morning, on our return to France; came back the same way we went—arrived at Paris the 26th, at nine o'clock in the evening—stopped one night on the way. We were gone from Paris 22 days; I never saw as great a change in the looks of a country, as there was in France while we were gone. There had been a good deal of rain, and grain had come up, and the grass had started and looked very green and fine.

We now concluded to shape our course for Stuttgart, Germany, where Charles L. Fleischman, Esq., resides, as American Consul, wishing to secure his services, as his intimate knowledge of the country and the different flocks of sheep, would make them valuable. We went from Paris to Strasburgh, a strongly fortified town on the Rhine. We went part of the way by railroad, and the rest by diligence. We were two nights and one day on the road, therefore it did not give us a very good opportunity to see the country; what I saw was hilly and poor.

We crossed the Rhine on a bridge of boats. The river was very high at the time, the country on the Rhine being much under water, but the land must be very rich and fine. We crossed from Strasburgh to Khel, from Khel to Carlsruhe by railroad, which runs along on the borders of the Rhine, from Carlsruhe to Stuttgart by stage coach. It takes about 12 hours from Carlsruhe to Stuttgart. There is a good deal of orcharding in the south part of Germany; there is generally a row of apple trees on each side of the highway. The land is all occupied; the hill sides are generally terraced and planted to grape-vines. Every few rods there are stone steps from the bottom to the top. The way they manure the vines, is to haul manure and leave it at the bottom of the hill, in piles; it is then carried up these steps by men. I saw a good many at work at it.

We had the good luck to find Mr. Fleischman at home, and he was very ready to do anything to benefit an American. His attachments for this country are very strong. I found him very much engaged in getting up a work on cattle—a work which I think must be very valuable. He has drawings of the different kinds of cattle and descriptions of them, as to their value for different purposes—for beef, milking qualities, oxen, &c., and the adaptation of different breeds to different locations, a subject that is much better understood and practiced upon in some parts of Europe, than it is in this country. I noticed this particularly in England. In the poor parts you will see the South-Down sheep; where the land is of medium quality, you will find a mixture between the South-Downs and Leicesters; in the rich parts, the Leicesters.

Mr. Fleischman was very busy, and hardly knew how to leave, but to accommodate us and benefit his adopted country, he consented to accompany us through Germany. We first paid a visit to the Agricultural School at Hoenheim, said to be one of the best in Germany. We were very kindly received and accompanied through the establishment by one of the professors. The students are taught agriculture, both scientifically and practically. We found them out at work on the highway. We found everything well arranged. The stock is all housed, and the farmers are as careful to save the urine as any part of the manure. The stables for the cattle are all arranged with gutters to carry the liquid into cisterns. They have some very good cattle, but nothing superior. The sheep are mostly fine wooled, small, and light fleeced. They have wool on cards from every sheep of every year since they commenced, which shows a great improvement in the quality. They have large quantities of samples from different parts of the country. They have all kinds of grain, seeds, and all kinds of farming implements. They have shops for the manufacture of all kinds of farming tools, carts, waggons, &c. The plows which they manufacture are of lighter and better patterns than any I saw in Europe, except in England. They have a large cabinet of minerals, also the skins of animals and birds stuffed, and most kinds of insects preserved, and the bones of most kinds of domestic animals. They have several professors who give lectures on farming, and the treatment of animals in sickness, and health.

The country around Stuttgart is in a high state of cultivation. We started from Stuttgart March 2d, to go north, as Mr. Fleischman informed us we must, to find such sheep as we were in search of. There are but few sheep in the southern part of Germany, and those not fine. We went into Saxony before we stopped to look. We went most of the way by railroad; found good railroads, and very carefully managed. As a general thing, they run cars slower than they do in this country. They have watchmen stationed at short distances from each other, to see that the track is kept clear. On some of the roads, they have four classes of cars. The first is fitted up in fine style, and is dear; but few ride in them; the saying has been used, I believe, that "none but princes and fools ride in them." The 2nd are good cars, generally have spring seats; the 3d are comfortable. More go, probably, in the 3d, than any other class. On some of the roads they have a fourth still, where the villages are thick. These are to accommodate the poor people that wish to travel from one village to another. They have no seats; they crowd them in thick, like cattle.

After we got into Saxony, we stopped and began to take excursions into the different parts of the country; found some good Saxon sheep; better than any I ever saw in this country. But we found nothing that would answer our purpose; there were two great faults in them—feeble constitution and light fleece. But there has been a change in some of these flocks in a few years past, in their manner of breeding. They are now breeding for folds of the skin. There is marked difference in every year's crop for the last five years. Those that are five or six years old, are smooth, tight-skinned, while many of the young sheep are covered in folds from the nose to the tail. The wool upon these folds is as fine as on the other parts of the body.

The stables for the sheep are built of brick or stone, are very warm. They are high between joints, as near as I could judge, from 12 to 15 feet; the sheep are kept very close in them, and the breath from the sheep makes them very warm—many of them so warm that it was uncomfortable to go into them, although it was quite cold at the time. The stables are not well arranged for convenience; there is but very little room in the upper loft for storing fodder. The fodder for the sheep is generally stowed in a barn on one side of the yard. Very little attention is paid in Europe to the construction of anything for labor saving. The sheep establishments are generally built in the form of a square; the stables for the stock on two sides; the barns for storing fodder on one, and the dwellings for the sheep-master and his assistants occupy the other. There are some very fine stables for sheep, that cost large sums of money. As a general thing, they keep their sheep very poor. Through Germany they feed large quantities of straw, not much grain, but a good many roots.

After looking at several of the best establishments and flocks in Saxony, we went on into Prussian Silesia, as Mr. Fleischman said that would be the place where we should find such sheep as we were looking for. We went as far east as Breslau: Breslau is the greatest wool market in Europe. The system they have adopted has proved very advantageous to them, and I think it would be useful in this country, if practiced. The wool dealers buy the wool from the grower; then each fleece is sorted into different parts according to its quality, which enables the manufacturer to get just the kind of wool he wants. They say it has proved profitable both to the dealer and manufacturer.

We went over Silesia pretty generally, but found only one flock that came up to what we were looking for. We bought from that flock 40 ewes, which were all that we could get at any price. The sheep which this flock was raised from, were imported from Spain in 1811—were of the Infantado and Nigretta stock. They have been kept pure, and bred with great care. They have always had two things uppermost—constitution and weight of fleece. These sheep have more good points than any that I have ever met with before. They are clothed in wool from the nose to the hoof. The wool is thickly set, and an even surface. They possess what all good breeders in Germany consider very essential—a perfect wool staple. The wool hair being of the same size all the way—the wool as thick on the out end as it is near the body. They are very careful about keeping up the thickness of the wool, in order to get the greatest weight of fleece. They prefer wool about the medium length. If they get it too long it becomes thick and flabby, parts on the back, and they lose in weight. They say it is much easier to get length than it is to retain thickness. The sheep will shear as much according to the weight of carcase, I am sure, as any sheep I ever saw. There is no waste space on them, and the wool is quite fine for Merino, and very thickly set. The wool is very clean and white on the inside, but quite dark on the outer ends.

Men take care of the sheep, and women take care of the cattle. The time we were there, they were preparing the land for spring crops. There were as many women at work in the fields, as men. They were spading the ground. Half the land, as near as I could judge, that they cultivate, is spaded, and mostly done by women. I have seen, sometimes, as many as 20 in one company, spading. They bring most kinds of domestic animals into requisition to help them do their work, and couple them together in a very incongruous manner, perhaps an ox and a cow, horse and cow, donkey and cow, man and donkey, harnessed together to work in the fields.

In Saxony and Silesia I saw very little wheat, but large fields of rye. Very little wheat bread is eaten in Germany. The poor people live principally on soup and bread, made of rye ground up without bolting, and beer. They will have their beer if nothing else. It is astonishing what quantities of beer are drunk. They are truly, as has been said, a nation of beer drinkers. Almost every estate has a brewery and wind-mill attached.

If it was not for the currency, I would like travelling in Germany better than any other part of the continent. Every little state has a different currency, and different coins, and what you get in one, often will not pass in the adjoining one. The people are very kind and hospitable, and appear very honest. In general, I found excellent hotels, good atttention, and much cheaper bills, than in any other part of Europe that I visited.

We brought our sheep 400 miles by railroad, to Bremen, where we shipped them on board the steamship Herman. We were 19 days from Bremen to New-York—lay three days at Southampton, England. While stopping there, I took an excursion into Devonshire, to see some of the noted stock of that county. They certainly have some fine stock—that is, cattle and coarse wooled sheep. I purchased two from Mr. Turner—a six-year-old cow and two-year-old heifer. Mr. Turner is one of the best breeders in England.

I was disappointed in the horses that I saw in England. They were too slim, light of limb, small round the waist, with too much of the blood of the race-horse in them for endurance. But two of the best mares I saw while in Europe were from England. They were at Von Thaer's (a son of the celebrated agriculturist of Germany.) He imported them for breeding. They have some good business-horses in Germany.

In conclusion I would say to those who have good Merino sheep, that they have nothing to fear from Europe, as they have but few Merinos, and what they have are worth more there than here. In general, choice animals are worth more there than here; they have learned to appreciate the value of them. I believe I have looked the sheep countries over pretty thoroughly. My instructions from Messrs. Hammond, Hall, and Remilee, who were associated with me in the enterprize, were not to spare time and money in looking, and if I could find any better sheep than we had here, to buy. Those instructions I endeavored to carry out. Yours, W. R. Sanford. *Orwell, Vermont, August* 1st, 1851.

Comparative Analyses of Soils.

Analytical Laboratory, Yale College,
New-Haven, Conn., Aug. 25, 1851.

Messrs. Editors—At the recent meeting of the American Association for the Advancement of Science, held in your city, I brought forward a number of papers embodying results obtained in my laboratory during the past year. Some of these are very interesting to the agriculturist, and in the present and one or two succeeding letters, I propose to give a short account of them. By the aid of Mr. Crane, my first assistant, I have made within a few months, some examinations into the nature of the results to be obtained, by analysing soils in such a way, and from such localities, as to institute direct comparisons in their composition.

One of the first points taken up, for instance, was to ascertain how near to the average constitution of a field we should get, by analysing samples taken respectively from different parts of its surface. It has been urged by many, in view of the small quantity employed for analysis by the chemist, that such a quantity could not represent the composition of the whole soil. To test the value of this objection, I had two samples of soil taken, one from each end of a six acre lot. This soil has been formed by the decomposition of a basalt or trap rock, and is of a red color. It is in the town of Farmington, State of Connecticut. By way of still farther comparison, another soil formed from the same rock, was obtained from a hill side not more than a quarter of a mile distant, and finally still another, from a point about equidistant between the two, where a red sandstone slate rock or shale appeared upon the surface. The following table therefore affords us ground for several useful comparisons:

	Basaltic or trap-soil Farmington.			Red shale soil.
Amount in 100 lbs. or percentage of	No. 1.	No. 2.	No. 3.	No. 4.
Alumina and iron,..............	10.88	9.51	8.65	15.34
Lime,..........................	0.25	0.31	0.22	0.07
Magnesia,......................	0.77	0.87	0.72	1.73
Sulphates of potash and soda,...	0.70	1.12	0.72	2.92
Soluble silica,................	0.24	0.17	0.13	0.12
Insoluble matter,..............	82.58	81.68	82.07	75.89

Of the trap-soils, Nos. 2 and 3 are taken from different parts of the same field as described above, and it will be seen at once that they bear each other a striking resemblance. There is in no case a difference of one per cent between any two of the constituents, and in most instances they really correspond very closely; as in the two derminations of lime, where in 100 lbs. of soil, there is only a variation amounting to 9–100 of 1 lb. In the magnesia the difference is but 5–100, and in the soluble silicia still less, only 4–100. If now we look also at the first column, we see that in the first line, there is shown to be more iron and alumina than in the other cases, owing to a small additional quantity having been dissolved by acid. With this exception, the other substances agree quite closely with those in Nos. 2 and 3. The three examples then show that these trap soils have a character of their own, that they correspond with each other in the main, and are in many points even almost identical, whether taken from the same field, or from somewhat distant localities. This point settled, let us turn our attention for a moment to the red shale soil No. 4, which it will be remembered, came from between No. 1 and Nos. 2 and 3.

Here we are at once able to perceive a most decided difference. The quantity of iron and alumina is nearly 5 per cent greater than in No. 1, where it is largest among the other three, while that of lime is less than ⅓ of what is found in any of the others. Magnesia on the other hand, amounted to fully twice, and potash and soda to three or four times as much, as in any other case. In soluble silica there is no very strking difference. Here, then, from the relative position of these soils, we have quite a remarkable instance, and one which pointed out very distinctly the benefit of analysis. These soils, lying so near together, vary in most important particulars; under long cultivation, with any especial crop, they would be exhausted in different degrees. The table also shows by its comparison of the three trap soils, that their character is the same, and that a fair sample made by mixing small quantities from different parts of a field, would give a reliable average result.

I will add another instance in support of this assertion; that soils from the same rock agree pretty closely. In the following tables, Nos. 1 and 2 are specimens of stiff blue clay, taken at considerable distances apart, on a hill-side near Albany. No. 3 was a white laminated clay, also quite stiff, coming from a lower layer in the same neighborhood.

Albany Clays.

Per centage of	No. 1, blue.	No. 2, blue.	No. 3, white
Iron and alumina,.... ...	13.32	13.76	17.01
Lime,....................	4.87	4.83	4.31
Magnesia,...............	2.47	2.69	2.71
Potash and soda,.........	3.67	3.16	4.80
Soluble silica,..........	1.68	1.19	0.47
Insoluble matter,........	70.40	69.16	67.63

The agreement between Nos. 1 and 2, of these clays, is even more decisive than was seen between the trap soils of the first table. The determinations, in fact, run so closely together, that many of them might be taken for corresponing ones on the same specimen; the differences between the lime, magnesia, alkalies and soluble silica, do not in either case exceed the half of one per cent. The white clay, too, does not vary so much from the other two as might have been naturally expected, from its very different appearance. A considerably larger quantity of iron and alumina is dissolved, but this is the only very essential difference. The lime and magnesia are nearly the same, and the general coincidence is such as to bring the three soils distinctly within the same class.

Another example of well marked characters in soils, is to be found in two from the vicinity of New-Haven, analyses of which are herewith given. These soils were upon the extensive deposit of sand and gravel drift which fills up many of the valleys in Connecticut and Massachusetts, forming light, and in most cases, rather poor soil. One of these was from a field actually worn out by cultivation, and the other taken from a bank at some distance beneath the surface; the intention being to ascertain if cultivation had not reduced the surface to the same condition as the unaltered subsoil.

SANDY SOILS, NEW-HAVEN.

	No. 1, worn out.	No. 2, native.
Iron and alumina,	6.66	5.12
Lime,	0.10	0.08
Magnesia,	0.35	0.28
Potash and soda,	0.38	0.45
Soluble silica,	0.34	0.26
Insoluble matter,	90.46	91.87

These analyses are quite interesting, from the fact that they show a surface soil so perfectly worn out by a miserable system of cultivation, as to be scarcely better in any respect, and in one or two *actually inferior*, to a sample taken from the center of a sand bank. A man who can farm his land no better than this, can lay no claim whatever to a true understanding of his business; he has been short-sighted for himself, and for those who are to succeed him. This soil originally light, needed brining up in place of exhausting, needed constant watchfulness lest its scanty stores should fail. A soil formed from serpentine and chlorite rocks, found in the immediate vicinity of these sands, gave quantities of magnesia and lime greatly larger than those cited above, showing it to possess a widely different character. The results were incomplete, and are therefore not inserted here.

The above are not intended as examples of complete analyses, but have been carried only so far as would serve to illustrate the object for which they were intended. No determinations were made of phosphates, sulphates, or chlorides, excepting as they are included with the alkalies. Such determinations would have given additional interest to the results, but were not indispensable, and would have involved great additional labor.

These analyses prove very satisfactorily, some of the ideas which I had previously entertained; indeed it is necessary to say that my success was more decided than I had expected. The general agreement between the samples from the same field, and between those from the same formation, is as marked as the decided disagreement, when we come to compare these with those from any other formation; even a very inexperienced eye, could scarcely fail to note these points.

We may conclude then, first, that so far as these results go toward forming a rule, the soil from the same field, unless there is some marked and visible change in certain parts, will agree in composition, and that a sample taken from a mixture of five or six shovel-fulls from various parts of the field, would afford a reliable mean result. We may in the second place, feel quite certain that when no disturbing causes have operated, the soil from one formation will show marked differences, when its composition is compared with that from another formation. The analyses given establish these two points, and also show in the two last instances, that land may be reduced nearly to a desert by unskilful cultivation. They lead the way, moreover, to some further illustrations and remarks on this subject of soil analyses; but these I must, from want of space, defer until my next letter. Yours sincerely, JOHN P. NORTON.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Culture of Fruits---Familiar Hints.

It is not necessary, at the present time, when almost everybody is planting fruit trees, to go into a long argument to show its advantages. A continued and most convincing proof is furnished by the fruit itself,—whether it be from the single loaded plum or apricot tree in the pinched up kitchen yard of the townsman,—or the broad orchard bending under the myriads of delicious specimens on the spacious grounds of the farmer.

But an inquiry is made—much oftener than it is rightly answered—"how shall we manage our young trees, from the moment they are received from the nursery, so that they may speedily come into profitable bearing?"—or, "how long will my young trees have to grow before I shall get fruit from them?"

As the time required for their fruiting depends very greatly on their management; while the quality, even more than the amount yielded, is influenced by the treatment they receive, it is well worth some pains and labor to give them every advantage.

Is it not strange, that while every man knows so perfectly well that half-starved cattle cannot possibly thrive, so many expect young fruit trees not only to thrive and grow, but to yield good crops, when not receiving even a tenth part of the attention that is bestowed on a half-neglected herd of cattle? Crowded, in the first place, into small holes, dug into hard soil; and afterwards suffered to be overgrown and choked by weeds and grass, they are quite sure to refuse the injustice of re-paying with a good crop, such negligence, not to say utter starvation at the roots. It is not difficult to see plenty of just such trees, of the apple, for instance, in passing through some parts of the country, of which the annexed portraits are tolerably fair representations. (Fig. 1.) Now, it is nothing whatever but this neglect that has reduced them to such a condition;—with good cultivation, they might have been just such healthy, vigorous, handsome, prolific specimens as these below, (Fig. 2,) which

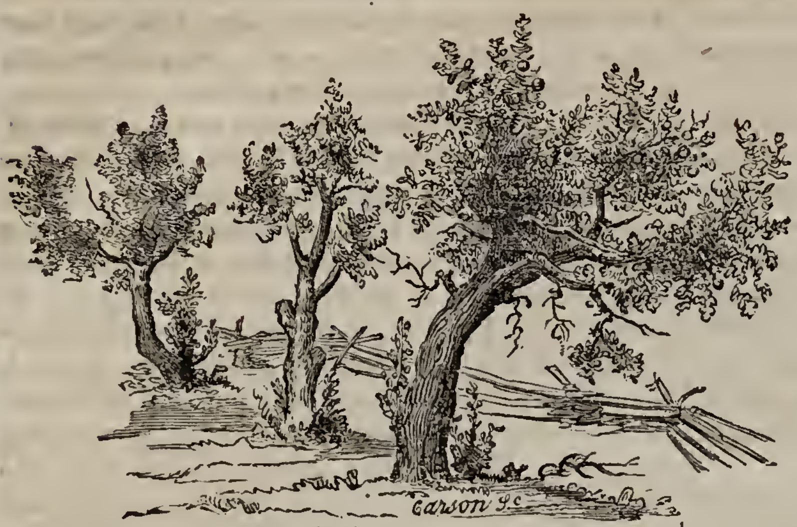


Fig. 1.

happily are becoming more and more common every succeeding year.

In reply to the inquiry as to the best treatment for trees,—The first thing is to get a good soil. To set good trees on bad land, is like building a house without a foundation, or like sitting down to dine at empty dishes; there is nothing to support the growth of the tree—no food to supply it with proper nourishment. If, therefore, the soil is not already such as to yield a crop of sixty or seventy bushels of Indian corn per acre, it should be made so, if trees are expected to flourish in the finest manner. The first thing is to obtain sufficient *depth* of soil,—to enable the roots to extend themselves freely, and to hold moisture without drying up in protracted drouths. This may be obtained by digging very large holes, say eight feet in diameter, and a foot and a half deep, and filling them with rich earth. But a better way is to plow the whole surface to that depth, and to enrich it well by manuring. A common plow will descend six or seven inches; by passing another plow in the furrow, that is by trench-plowing, the soil may be loosened to ten inches or a foot. But by means of a good subsoil plow in the common furrow, a depth of fifteen to eighteen inches may be attained. Now, to work the manure down to that depth, and make the whole one broad deep bed of the richest soil, it must be first spread on the surface evenly after the whole has been well subsoiled, then harrowed to break it fine and mix it with the top soil, and then thrown down by a thorough trench-plowing. For although the trench-plowing can hardly be worked a foot in depth of itself, yet after a good loosening with the subsoil plow, it may be at once extended down a foot and a half. If this is done in the fall, and another good plowing given in spring, the whole will be in fine condition for the reception of trees. Does this seem like a great deal of cost and labor? It is the very cheapest way of getting fine crops of the best fruit, for the way in which strong, long, and healthy shoots will run up even the first year will seem like nothing short of magic; and the short time in which such trees will begin to hang out their ruddy or golden treasurers, and the size, beauty, and richness of the fruit afforded from such an orchard kept well cultivated during its early years, will astonish those who have never seen any but slip-shod culture.

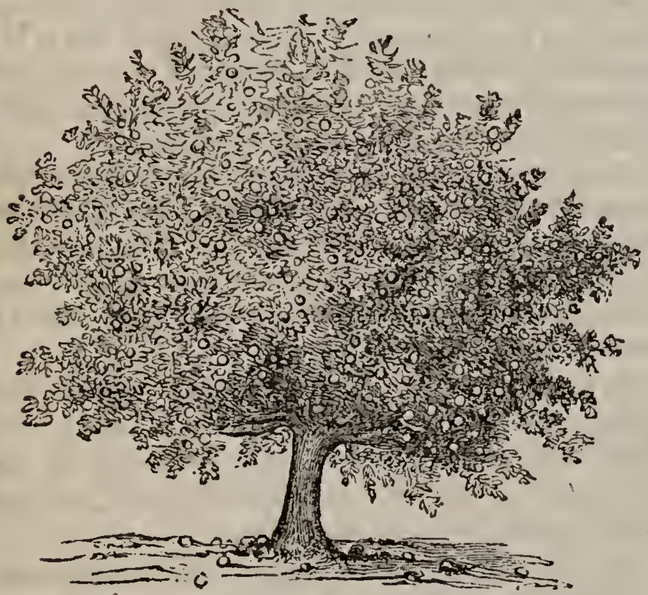


Fig. 2.

After a tree is well set out in such an admirably prepared soil, the subsequent treatment although of the greatest importance, is very simple. It consists merely in keeping the soil mellow, by repeated stirring, and preventing the growth of any vegetable for several feet from the tree, whether it be weeds or the growth of a crop. A *hoed*-crop is however admissible, as being next best to clear mellow ground, because most of the surface is still kept well stirred during the operation of tillage. A *sowed*-crop, grass, or weeds, is ruinous to young trees.

These hints, we are aware, are not new to many; but it is often better to repeat and old and important truth, till all practice it, than to search only for what is new.

◆

Stocks for Pears---Grafting Roses.

Owing to the prevalence of leaf blight in pear seedlings, I was induced to make some experiments on thorn and mountain ash, the result of which may be interesting to those cultivators who cannot obtain healthy pear seedlings. I found that the Tyson, Osband's Summer, Madeleine, Julienne and St. Ghislain, were exceedingly thrifty on the English whitethorn; and entirely failed on the Washington thorn, with the exception of Osband's Summer, of which I have trees of this season's growth, from three to four feet high, quite stout, and some of them considerably branched, so much so as to afford five or six stocks of buds of good size. On Mountain ash—Fondandte d'Automne, Duchesse d'Orleans, St. Ghislain, and Osband's Summer, were remarkably fine. They were all splice-grafted on the roots of year old seedlings, the splice tied with candle wicking, and waxed with common grafting wax, laid on warm with a brush, thus entirely excluding the air, and which also enabled them to be handled with more safety to the graft than if whip-grafted.

Roses of several varieties, such as the common Black Moss, Gen. Duboury, and indeed all the Bourbon's I tried, succeeded admirably by splice grafting—and then placing five or six in a pot filled with charcoal, leaf-mold, and loam, say one-eighth charcoal—then put in a *moderate* hot-bed, the frame being covered with *cloth* instead of glass. In about three weeks they were nicely united, and made fine saleable plants in the autumn of the same season. E. S. *Macedon, 8th mo. 30th*, 1851.

(*Continued from page* 337.)

ciety. Our notices in this department must be postponed till next month.

DAIRY HALL showed a fair display of dairy products, of the quality of which we are unable to speak. In the same department were excellent samples of seed grain of various kinds, flour, meal, corn-starch, &c.

MECHANICS' HALL was well filled, and contained many useful articles of late invention or introduction, which we shall notice hereafter.

MANUFACTURERS' HALL was less attractive in reference to the extent, variety, and quality of the articles exhibited, than this department has been on previous occasions.

FLORAL HALL consisted of an elliptical tent 80 feet wide and 140 feet long. Its interior arrangements were designed in excellent taste. Next to its outer circumference, and extending round the whole tent, was a series of terraced shelves, for the exhibition of fruit. These shelves were very closely filled. Next to this was the broad passage for the spectators. Inside of this passage was the series of tables, parallel to the fruit tables, for the flowers. These presented a very rich display. The interior area was occupied with a large mass of rockwork in the centre, interspersed with ferns, cactuses, &c., surmounted with a massive rustic tree, supporting baskets of fruits, flowers, grapevines, &c. On each side of the rock-work were high terraces of shelves densely filled with a rich display of greenhouse plants from several contributors.

Among the fruits which excited most attention, were the fine exhibition of peaches—many specimens of Crawford's Early measuring from 10 to 11 inches in circumference. Bartlett and Stevens' Genesee pears were exhibited possessing great beauty; and there was a profusion of fine apples. The following were among the principal contributors:—

Wm. R. Smith, of Macedon, N. Y., exhibited a collection of large glass jars, containing cherries, strawberries, peaches, &c. beautifully preserved in a fresh state, sealed air-tight. Bissell and Hooker of Rochester, very fine bunches of Black Hamburgh, Golden Chasselas, and other exotic grapes, grown in a cold house; several other collections of foreign grapes grown in a similar way, including Muscat of Alexandria, Royal Muscadine, Hamburg, &c., show the progress of the culture of these varieties. Among the principal contributors, who all furnished extensive collections of fruits, were Benjamin Hodge, of Buffalo; Thorp, Smith & Co., of Syracuse; J. J. Thomas, of Macedon; W. F. and E. Smith, Geneva; and from Ellwanger & Barry, C. J. Ryan, Bissell & Hooker, N. Hayward, S. Moulson, and others of Rochester and vicinity. John Morse of Cayuga Bridge, exhibited 43 sorts of pears, in which we observed very fine specimens of Beurre Bosc, Flemish Beauty, and Pratt. Ellwanger & Barry had more than a hundred sorts of pears, embracing some fine and rare sorts. One of the best collections of plums was from E. Dorr, of Albany.

Among the floral contributions, we observed extensive collections from Wm. Webb and B. Hodge, of Buffalo, John Donnellan and C. Powis, of Greece, and King and Dawe, Ellwanger & Barry, A. Frost & Co., S. Moulson, Wm. Webster, and C. J. Ryan, of Rochester. A beautifully constructed floral alcove was presented by A. Frost & Co.; a large and beautiful box of flowers, of some 200 sorts, by Mary Devoe, of Aurora, Cayuga county; and a very striking and singular conceit,—a finely proportioned pony, five feet long, surmounted by an equestrian "bloom-er," the whole composed of flowers quite tastefully arranged, was exhibited by L. E. Smith, of Saratoga county, New-York.

THE ADDRESS was delivered by Hon. STEPHEN A. DOUGLASS, of Illinois. It was devoted mostly to practical subjects, and contained many interesting suggestions. It was listened to by a large and attentive audience.

SALES OF STOCK.—Sales of live stock took place at the Fair to a large extent. We have notes in reference to many of these, but for want of space are obliged to postpone them till next month.

ROT IN POTATOES—YELLOWS IN PEACH TREES—DISEASE IN BUTTONWOOD TREES.—The *Mass. Plowman* gives the opinion of its editor, that insects are the cause of the potato disease. It is not pretended that the insect has been discovered, but it is his "*belief* that by the aid of powerful glasses we may yet be able to discover something as fatal to the potato as the squash-bug is to the squash." Is the editor aware that all parts of the potato plant have been often examined by the most "powerful glasses" in existence, without finding any such insects? But the editor claims to reason from analogy, and contends that what "some people call 'the curl'" and the "yellows" in peach trees, is caused by insects, and that the blight or disease of the buttonwood or sycamore tree has a like cause. He says the worms "work in the fore part of the season and eat off the leaves—when the worms cease to work, the tree is again clothed with a new suit, provided the soil is rich enough to furnish the means. If not, the tree dies after a few successive robberies of the leaves, as all plants will." Now, for ourselves, although we have examined both the buttonwood and peach tree with some attention, we have never found any insects which could produce the maladies alluded to, and such has been the result of the examinations of others. Will Mr. BUCKMINSTER have the goodness to send us specimens of the insects, with an account of their habits, which occasion the diseases spoken of in the buttonwood and peach tree? He thinks "there may be new creations of insects at the present day," and says, "we know that new varieties of insects make their appearance as the country grows older." Will he be so good as to tell us what "new" insects have either been "created" or made their "appearance?" In this matter, we believe "there is nothing new under the sun."

LARGE CROPS OF INDIAN CORN.—It is gratifying to perceive that the soil of the "Old Colony," though never of the most fertile character, is able to produce crops of Indian corn which can hardly be exceeded, and even rarely equalled by any part of the country. The agricultural society of Plymouth county (Mass.) gave premiums last year for this crop as follows: Morrill Allen 145, G. W. Wood 119, Nathan Whitman 109, Spencer Leonard 106 bushels per acre. Dixon Bryant 100 bushels per acre on three acres. Leonard Hill 94 bushels per acre on two acres.

New-York State Fair.

The eleventh Annual Show and Fair of the New-York State Agricultural Society, which took place at Rochester on the 16th to 19th of September, may be deemed to have fully equalled any previous display. All the departments, with the exception of "Manufacturers' Hall," were creditably filled, while in several branches the competition was unusually extensive. The number of visitors was larger than on any former occasion. A comparative idea in regard to the attendance at this and the two exhibitions last preceding it, may be obtained from the receipts, which for 1849 were $8,144,-65; for 1850, $10,465 61; for 1851, 11,956.11.

The number of people who entered the grounds during the four days, must have exceeded 100,000. The crowd on Thursday, the first of the "shilling days," was absolutely immense, so covering the whole field, which comprised nearly thirty acres, that it was with difficulty a person could pass from one part to another.

The location was about a mile and a half south of the city, on the west bank of the Genesee river, and from the elevation of the land, commanded a very good view of the surrounding country, including the beautiful grounds of the Mount Hope Cemetery, on the opposite side of the river. The field, though somewhat rough in its surface, was on the whole well adapted to this object. The soil was sufficiently moist to prevent the rising of much dust till towards the close of the exhibition, though the clouds which rose from the neighboring road, proved a considerable annoyance when the wind blew towards the field.

The general arrangements were admirable, both in design and execution, and reflected much credit on the officers and others, under whose direction and supervision they were made. The buildings were well planned and well situated, and in construction and finish, were, in some instances, a decided improvement on those of previous exhibitions. So far as we are acquainted, the good order and system manifested in all the departments of the exhibition, gave entire satisfaction to the numerous competitors. The various superintendents were active and accommodating. Their duties were very arduous, and they are entitled to many thanks for their vigilance and untiring exertions.

The occasion has passed very pleasantly, and in its ultimate results, will prove largely beneficial in aiding the cause of improvement in agriculture and the other industrial arts. The general expression among the masses, was that of satisfaction. We heard little complaint of want of accommodations, or of extortion, or imposition. On the contrary the liberality of the citizens of Rochester, in opening their doors and providing food and shelter for the thousands, has been frequently spoken of in terms of high praise.

The weather was highly favorable—the change from the intense heat of the previous week, being very fortunate and agreeable. The clear sunshine was, however, even with the moderate temperature, somewhat oppressive to those animals, which were obliged to stand fully exposed from morning to night for four days in succession. Nearly all the cattle were placed in this situation. A few of the exhibitors erected awnings over their animals, which greatly promoted their quiet and comfort. Would it not be well for the Society to provide this protection in future years? The expense would not be great. Cotton cloth would serve for the canopy, and if properly taken care of it would last many years.

We have only room at present to speak of the exhibition in brief and general terms, and must leave to another occasion more particular notices.

Horses.—This interesting department was unusually full, and comprised good specimens of the different classes. In the class of Blood Horses, the competition was quite limited—indeed we saw but three or four animals which appeared, strictly, to belong to this breed. We noticed Mr. Burnett's well-known Consternation, and the horse Prior, bred in Virginia, now owned by Mr. Baker, of Otsego county; also a beautiful four-year-old horse by Consternation, owned by Geo. Hammond, of Rome.

Of Roadsters, or light carriage horses, there were some excellent specimens of the Morgan stock, among which we noticed the fine horse Morgan Hunter, owned by Ackley and Gilbert, of East Hamilton, Madison county,—General Gifford, owned by Mr. Ingersoll of Lodi,—Major Gifford, now kept at Penn-Yan, formerly owned by Mr. Mason, of Jordan. The colts, by Gifford Morgan, shown by Mr. Gilbert of East-Hamilton, and Mr. Wier, of New-Hampshire, as well as those by General Gifford, owned by Mr. Dorr of Scottsville, Monroe county, received much commendation, as did also a colt, by Black-Hawk, owned by Mr. Remington of Sennett.

The class of Draft Horses, comprised the largest display we have ever witnessed. Many of the best were the progeny of an imported English horse called Sampson, or the "Robinson horse," formerly owned by John Robinson, of Wayne county. This stock of horses is highly prized by many for the purposes of farm labor. A pair of mares, sisters, six and seven years old, weighing 2,600 lbs., owned by Mr. Hale of Lyons, Wayne county, attracted much attention, not only for their size, but for their symmetry and apparent strength.

There were several horses in this class from Canada. One called Clyde, of the Clydesdale breed, from Toronto,—which was exhibited at our State Fair at Buffalo,—was on the ground, accompanied by three of his progeny, from four to six years old. They were all of the color of the sire, grey, and closely resembling him in shape. The old horse is very large—we were told he had weighed upwards of 2,000 lbs.—but he is quite active, and trots with a lighter step and more apparent ease, than many horses of ordinary size.

The matched and single carriage horses, were not, on the whole, superior to several previous exhibitions. We noticed a pair of handsome sorrels, owned by Gen. S. M. Burroughs, of Medina, and a pair of well made and well moving chestnuts, owned by Mr. Baker, of Rochester.

Cattle.—The show of breeding stock in this department was very large—perhaps larger than at any former show of the Society; but the fat cattle and working oxen were not as numerous as at some former shows.

The Short-horns were well represented from the herds of Messrs. Morris, Sherwood, Chapman, Becar, Allen, and others in this State, besides several fine specimens from Canada, owned by Messrs. Fergusson, Wade, and others. Mr. Fergusson's roan bull, Halton, and his red cow, and Mr. Wade's roan bull, "American Belted Will," were among the very best animals in this class, and it was the opinion of many connoisseurs that Mr. Fergusson's cow was the finest Short-horn cow on the ground. A bull exhibited by Mr. Green, of Winslow, Maine, had many good points.

The Herefords were principally from Mr. Sotham's herd. He exhibited a considerable part of his stock, without selection, and as a matter of course, some of them were "out of condition;" but a judge could see that there were several very fine animals among them. A two-year-old bull of this breed, owned by Gen. Harmon, of Wheatland, has excellent symmetry and quality.

The Devons were in larger force than at any previous show, and although some of the animals exhibited in this class were evidently of spurious character, there were many very fine ones, which were no disparagement to this beautiful and popular breed. The imported bull (bred we believe by Quartly) shown by Mr. Wainwright, of Dutchess county, is a splendid animal, combining almost every point which constitutes perfection. Several of the cows and heifers from the herds of Messrs. Van Rensselaer, Morris, Wainwright, Stevens, Beck, Garbutt, Vernon, Washbon, Baker, Hamlin, Sheffer, and others, were excellent. Mr. Gapper, of Canada, also exhibited several good Devons. One of his cows, own sister to the noted bull Major, (who was bred by Mr. Gapper,) was one of the very best of her class, and his young imported bull has some very superior points—especially the general fullness and levelness of his back.

There was but little competiton in Ayrshires. Mr. Prentice exhibited nine head, among which was his beautiful young bull, Dandy 2d, and several choice cows and heifers. A bull was also exhibited by Wm. Somerville, Ellicottville, Cattaraugus county. There was also an excellent cow owned by W. A. Mills, of Mount Morris, Livingston county.

Several Alderneys, or Jerseys, were exhibted by Mr. Colt of New-Jersey, one of which was the imported cow which was shown at the last State Fair at Albany. Mr. Colt also exhibited again, his imported Hungarian cattle, which, from their novel characters, were regarded with so much curiosity last year. They have greatly improved in general appearance, and increased very much in size. They both indicate great tendency to fatten, and the bull has good shape, and evidently possesses great strength and constitution. It is to be hoped that these cattle will receive a fair trial, in regard to their usefulness for our purposes.

The most interesting specimens among the fat cattle were three spayed cows, five and six years old, nearly full blood Devons, owned by Geo. Sheffer of Wheatland. They were all remarkable for fatness and symmetry, and one of them, (the smallest of the three,) exceeded any other animal we have ever seen, in the amount of high priced meat she carried, in proportion to the coarse parts and offal.

Sheep.—The exhibition of sheep was the largest and best we have ever seen. The Saxons were represented by good specimens from the flocks of Messrs. Church, of Oneida county, Colt, of Monroe, and Scoville, of Connecticut. The reputation of all these flocks is well known. The Merinos were very numerous. The stock known as the "French Merinos" was shown by Gen. Harman, of Wheatland, Mr. Hall, of Gaines, Orleans county, Dickinson, of Victor, Ontario county, and others; and good specimens of the Spanish stock were shown by Messrs. Burritt, of Burdett, Tompkins county, Cook, of Lima, Livingston county, Dart, of Harpersfield, Delaware county, and others.

There was an extensive competition in South-Downs, and most of the lots were of fair quality—several first-rate. Those belonging to Mr. Morris, of Fordham, Westchester county, Col. Sherwood, of Auburn and Mr. Wakeman, of Herkimer, attracted much attention. Several of Mr. Morris's and Col. Sherwood's were obtained from the celebrated English breeder Jonas Webb.

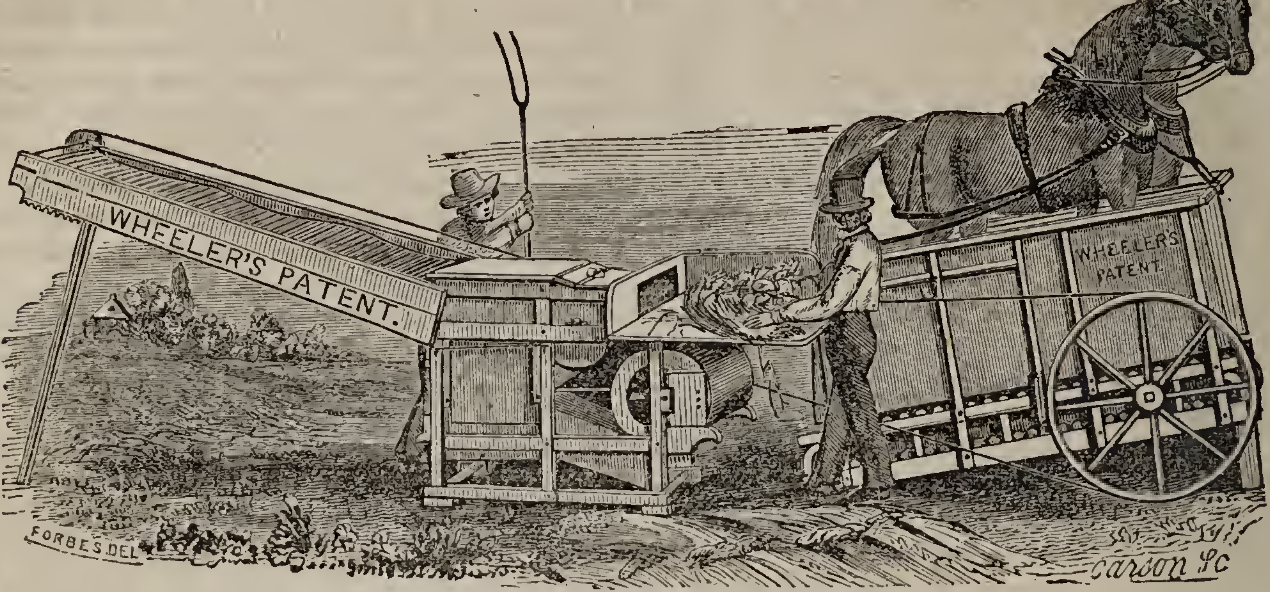
The Long Wools were quite numerous, but for the chief excellencies in the specimens exhibited, we are sorry to say we are indebted to our Canadian brethren. The lots offered by Mr. Gapper, of Thornhill, Mr. Wade, of Port-Hope, and Mr. Miller, of Pickering, were good specimens of Leicesters, and Mr. Miller's ewes, might almost be taken as standards for that breed. Some fair Leicesters were offered by Messrs. Peck of Lima, Rathbun, of Springfield, Otsego county, McDonald, of Warren, in the same county, Horbury, of Columbia, Niagara county, Swailes, of Sodus, and others in this state.

Swine.—The show of swine was quite large, but in general, the stock was by no means of the best quality, being coarse, bony animals, which would requre high feeding, and too long a time to reach maturity. Some fine Suffolks, and those of other blood, were shown by Mr. Morris, of Fordham, and Wm. Hallock, of Rush, Monroe county. Some good hogs of somewhat larger size, (Leicesters,) were shown by Turner Brown, of Chili, Monroe county, and Wm. Webb, of Darien. A Chinese sow,—evidently of a very prolific stock, as she was suckling 13 pigs—was shown for exhibition only, by Mr. Delafield, the President of the Society. The stock indicates the tendency to fatten for which the Chinese swine have always been noted, but it appears to have been lately introduced into this country, and has not yet received that refinement of shape, which it is susceptible of attaining under the direction of a skillful breeder.

Poultry formed a large display. A great portion of the fowls were of the large Asiatic tribe, known under the various names of Malay, Java, Cochin-China, Shanghae, &c.; some of the best of which were offered by B. B. Kirtland, of Greenbush. Some good Dorkings were shown by L. F. Allen, of Black Rock, and D. P. Newell, of Rochester. Some good Silver Polands, or Silver Top-knots, were shown by F. W. Collins, of East Bloomfield, Ontario county; and some very good Creole fowls, by Alfred Stevenson. Handsome Bremen and White China Geese, were shown by L. F. Allen of Black Rock; wild turkies, by L. K. Haddock, of Buffalo.

Implements.—The display of agricultural implements was quite as large, and embraced a greater variety and wider competition, than any former exhibition of the So-

(*For conclusion, see page* 335.)


WHEELER'S PATENT.
WHEELER'S PATENT.
FORBES DEL
Carson Sc

WHEELER'S COMBINED THRESHER AND WINNOWER.

The Farmer's Note-Book.

Wheeler's Combined Thresher and Winnower.

This machine was invented and patented by Thomas B. Wheelr, of the firm of Wheeler, Melick & Co., Albany. As the name purports, it is designed for threshing and cleaning grain at one operation. The winnowing apparatus may be fitted to powers of either one or two horses; the cut represents the latter, and with this power the machine is capable of getting out 150 bushels of wheat, or 300 bushels of oats in a day. The number of hands required depends much on the facilities for working the machine, the convenience of feeding, and the room for disposing of the straw. We saw it in operation lately, in threshing mowed oats, which were not in the best order, and it worked at the rate of 40 bushels an hour—cleaning the grain in a thorough manner—the number of hands employed being four men and two boys.

The cost of the whole apparatus, as above represented, is $200; the additional cost on account of the winnower, is $55. Further particulars will be learned from the advertisement of Messrs. Wheeler & Co.

Harvesting Indian Corn.

Eds. Cultivator—I notice in the Cultivator for September, under the head "Harvesting Indian Corn," an implied call for an experiment I made about 12 years since, in which I was highly gratified.

I made an experiment on about one and a half acres, (I should judge,) by topping the stalks on half the piece—divided by plats of four rows each, commencing with two rows topped, then left four untopped, then topped four, and so on, through the piece, ending at the last side as I began, with two rows untopped—so that just half of the corn was topped and half left untopped, and the division so made as to leave no difference in the quality or quantity of corn in either part. The rows were north and south.

It is so long since I made the experiment that I am unable to give the details as to the time of cutting, the exact amount of difference, &c. The above piece was topped, (or half of it) as above described, at the usual time of topping in that section of country, Franklin county, Mass., on the east of the Connecticut river. The corn was planted on my land, by a neighbor, upon shares, and his share was half, and the reason of my making this experiment was, I was convinced that corn lost more by topping than by cutting up at the bottom, while my neighbor belived otherwise. When the corn was ripe, we gathered it in the same day, husking it in the field, weighing the ears as we put them into the wagons, and the result was, I had from my half of the piece, divided as above described, and left to ripen in the order of nature, 1400 lbs., while the owner of the other half, which was topped, had only 1112 lbs. from his part, making a difference of nearly 300 lbs.

It is proper to mention that we were satisfied that his corn was a little the dryest, but deduct 50 lbs. of the overplus on that account and it leaves more difference than the value of the tops he took off.

I had another piece of about an acre in the same field, but planted myself and having no partnership about it. About 10 or 12 days after my neighbor had topped his part of the former piece, a frost came, and supposing it to be so severe on the corn that it was best to cut it up at the bottom, I went into it with my help and cut about half of that piece, on one side. We found on the drying off of the frost and dew, &c., that the corn was not as badly injured by the frost as we had anticipated, so I left the remainder to ripen as before, in the order of nature.

When we gathered the corn, we took the same method to ascertain the proportional quantity, by weighing the ears, and found about half the difference in quantity in favor of the part standing, that we found on the former piece. It may be proper here to remark that we cut it up a little earlier, in relation to its ripened condition, than is commonly done when cut up at bottom, and somewhat later than the usual time of topping.

Now from the above two experiments, we obtain two important items of information. First, the most corn will be produced by letting the crop ripen in the order of nature; and second, that by cutting up at the bottom, although a greater molestation or derangement of nature's operations, yet we get more grain than by topping. Now as to the value of the stalks topped, compared with those cut up at bottom, I have not any positive knowledge, but will venture an opinion that stalks cut at the bottom are worth about double what they would be topped, after taking all the bearings into the account, such as getting them clean off the land, making manure of the refuse, and the extra trouble of getting the topped stalks out of the corn ground, &c. I am sensible that cutting up at bottom makes heavy work, which some, who are on the watch-tower for a quarrel with labor, complain of, but when the crop is well stooked up, and gets suitably dry for storing, it is a much shorter job to get in a field of corn in that way, than it is to pick and husk in the field, or even to pick it with the husks on and carry it into the corn-house or barn, or any other building that may be designed for such uses. And then it is out of the way of bad weather, and may be husked out more at one's leisure, than when standing in the field. Oliver Moore. *Kensington, Sept.* 1, 1851.

Extremes---Comparative Value of Carrots.

We notice in an "official" report of a discussion by the American Institute Farmers' Club, Mr. Meigs stated that "carrots are equal, bushel for bushel, to corn or oats," as food for animals. Prof. Mapes, speaking on the same subject, said,

> "As to carrots, parsnips, &c., experiment has distinctly shown that in feeding for pork, the roots make it for four and a half cents a pound, and corn for twelve and a half cents a pound. Campbell of Jersey has fully demonstrated this, and so have I."

We regard these as random assertions. We think highly of the carrot, and have often recommended its culture; but even gold may be too highly estimated, and we cannot understand how carrots can be "equal," in nutriment or value to corn or oats, bushel for bushel. True, it may be better for an animal to receive a certain proportion of carrots, to the exclusion of an equal proportions of the grains mentioned. But this no more proves that the carrots are "equal" to the grains, than the fact, that it would be better for a man to eat a pound of potatoes and a pound of meat, rather than two pounds of meat, proves that potatoes are "equal" to meat, pound for pound. Both facts simply show that the animal system is benefitted by the *mixture* of food mentioned.

We should like, to see the details of the experiments which "distinctly show" that pork can be made from carrots and parsnips at four and a-half cents per pound, and that when made from corn, it would cost twelve and a-half cents per pound. We do not deny that pork may be made from roots at the price named, but we cannot see why it should cost twelve and a-half cents per pound to make it from corn. We know there are not many accurate experiments on which we can rely as positive proof, on this subject. From the results of some trials made in Essex county, Mass., a few years ago, it was concluded by a committee of the Agricultural Society of that county, to whom the subject was referred, that a bushel of corn would make twelve pounds of pork. Supposing the corn to be worth sixty cents per bushel, this would make the cost of the pork five cents per pound. Prof. Johnston, in a late lecture in Scotland, said, "the Chinese and Berkshire pigs are said to produce ten pounds of bacon for every imperial bushel of corn [grain] they consume." But, as before remarked, there is an advantage in mixing food for animals, and the experience of many farmers teaches that pork can be made to better advantage by mixing grain or meal with vegetables or fruits, than by either separately.

Agriculture and Horticulture in Greene Co., N. Y.

Eds. Cultivator—I was very much interested in the "Sketch of the late Judge Hayes," in the August No. of the Cultivator—especially in that part of it which sketches his plans and mode of agriculture. There is so much good sense in his management, that I concur with his plan, and have substantially practiced it for years past. I have but a small farm of 30 acres; five of it I have set out, mostly with fruit trees, and nursery trees, of which I have a great many choice varieties, as well as a fine flower garden. For many years past, I prepared a pen for my hogs, which is a hard pan bottom, slightly sloping south, at the lower fence of which I set up edgewise, flat stones settled down to the hard pan, to prevent leakage of manures, and like Judge Hayes, I make it a depot of all surplus weeds, potato tops, straw, and many large kinds of weeds that our highways are filled with; and to these I sometimes add slaked lime and leached ashes, and all the manure and bedding of one of my horses, and from this source I usually get from 25 to 30 loads per year, of the best manure. I also have a compost hollow in my yard, where two cows and another horse are kept, which adds a rich dressing for my lands.

Some four years since, I added to my little farm about three acres, on one acre of which the refuse tan-bark of an old fashioned tannery had been spread, including the lime, had been mixed with the earth; and from this I drew many a load of rich dressing for my strawberry beds, and around my grape-vines and roots, and some in my flower garden, and around quince trees, gooseberries and currants, which I cultivate in single stalks, kept free from weeds or grass. These dressings produced large gooseberries, particularly the imported "Roaring Lion," of Scotch origin, and which have measured over six inches in circumference the longest way, and five the other way, and the imported English Sweet Williams are nearly as large. I have a small jar of them preserved in the purest alcohol, reduced one half by pure water, and sealed up.

I now have over one hundred quince trees that are bearing, nearly all in single standards, and of the apple kind. They often have weighed a pound each, and bear annually. Currants trimmed in single stalks, often grow five and eight feet high, and the white, red and black, are much enlarged, and remain good till frost comes, by reason of keeping the ground clean, and well dressed with compost, and the plants either staked up with hemlock stakes, or trimmed up along picket fences; and they produce large quantities of large stems. So it is with the common black raspberry, which I have transferred from the field, and have staked up with the Red and White Antwerp, and keep the ground clean.

Last fall, on clearing up about three acres of new land to sow some Mediterranean wheat, I found that a swale of about one-fourth of an acre was filled with a rich black mold, that had been perhaps 50 years accumulating, from decaying leaves, and the running of a small spring that spread around on the flat. In some places it was from one and a half to two feet deep, and while carrying manure, and cultivating and plowing, for sowing the wheat, I drew 30 two-horse waggon loads of this mold to my garden and fruit yards, and added some lime, ashes, leached and unleached, and where the ground was clayey I added fine sand, washed into heaps on my premises in a great freshet. My vegetable garden and a sloping field of fruit trees, of about three-fourths of an acre, I dressed with this and other manure, and plowed it up in ridges in the fall, so as to enable the frosts of winter to pulverise and make it fine for early planting in the spring. A sufficient portion of that 30 loads, I preserved in heaps near my fruit yards and garden, and two small meadows set with trees, to be used the past spring to dress them, and put round the trees, flower-beds, shade trees, shrubbery, grapes and strawberry beds, as well as over tulip bulbs. And at no season have I ever had so fine a growth of tulips, crocuses, crown-imperials, double and single Michigan roses, double and single Yellow Huron roses, and the Baltimore Belles' and other varieties, and at this time my garden is alive with double and single sun-flowers, from black to white, as well as the Silesian Goldflower, which blossoms twice a year, and often three times. At strawberry time we feasted on some half-dozen varieties of fine strawberries, the last of which were the Ross' Phœnix, Boston Pine, the Beehive and Hovey's Seedling. The last one was larger than any of the others. I have other fine kinds, set last spring, obtained from Marshall P. Wilder's garden, that I am satisfied will prove fine another year. This rich feast was followed by rich treats of raspberries of different kinds, which are still bearing.

I obtained last year, some fine dwarf pears on quince standards, that blossomed finely this year. They were imported from France by Thorp, Smith & Hanchett, of Syracuse. Of 25 which I got of them, my neighbors got all away from me but ten. And of over 30 of similar kinds, that I got this spring from Mr. Wilder's garden, and 20 more from Thorp & Co., nearly all were taken by purchasers who were glad to get them at from 50 to 56 cents each, because they were fine; and such a fine growing season as we have had, has, in connection with the dressing around my fruit trees, put them forward, and they are more fully loaded with fruits of numerous varieties, (over one hundred,)—especially my plum and quince trees, are overloaded, and apples, pears and peach trees, well filled. My choice cherry trees were young, and just beginning to bear, and the birds picked most of them this year. I have over 500 fine grafts—mostly whip grafted—and a good many pears, whip grafted on small, thrifty quince sprouts, that are growing finely, and have several thousands of apple, pear, peach, cherry, and plum trees, that are in fine order for budding. The constant rain keeps a good flow of juice under the bark, and all yet budded bid fair to live.

Excuse me for so long an epistle. But when I think of the ease with which our farmers could fill their gardens and fruit yards, with the *healthy* and delicious kinds of fruit, I can hardly stop describing them, and the easy mode of cultivation. They seem to me to be designed for the health, pleasure and happiness of the honest yeomanry of our rich agricultural "Empire State." A. M. *Durham, August* 10, 1851.

◆

"Chess will turn to Wheat."

This maxim has been handed down from generation to generation, but the *present* day is one in which many facts are demonstrated by way of *experiment*, rather than by the traditions of our fathers.

Last fall, I picked out, head by head, of the *Hutchinson* wheat, three bushels, which I sowed on *new land*, a part of which was rather wet. It was sowed late—fore part of October—and produced a light crop—having all the circumstances favorable to the growth of *chess;* yet when I came to harvest it, there was not a head of chess to be found in the *piece.*

And now, farmers, if you wish to raise a crop of chess, I advise you by all means to sow chess, and not calculate on making it out of wheat, for unless you have better success than I have had, you will *certainly* fail of a good crop. I am expecting to sow 20 acres of new land this fall, and should I receive the blessing of a good crop, I hope to be able another year to furnish a few farmers in this vicinity with the pure Hutchinson wheat, and nothing but wheat, and that, too, which I shall not be afraid to warrant will *not* turn to chess if sowed on new land. Solomon Leonard. *Berkshire, Tioga county, N. Y., 12th August*, 1851.

◆

Crops in Seneca County---Stage for Cutting Wheat.

Eds. Cultivator—Having finished my wheat harvest, and being now about finishing the hay, I write you a few lines about crops, &c. Our wheat crop in this immediate neighborhood, I think is a very good one; mine, I know, will turn out about the same as last year. My hay crop is the largest I ever cut—in fact it is immense, and I presume it must be the same throught Western New-York. Oats are also very good; barley is said to be excellent; corn, I think, from what I have seen, cannot make a good crop.

I have noticed of late a strong desire in your corresdents, and also in those of other agricultural papers, to induce farmers to cut their wheat before it is ripe. I am well aware that cutting wheat in a raw state makes the best and hansomest sample; but I notice some advise cutting it *twelve days* before it is ripe. Now it would be absurd to cut wheat in this country twelve days before it is ripe—indeed the farmer had better have it destroyed by a hail storm, than cut it twelve days before ripe, because in that case he would save the expense of harvesting green wheat, which would be almost worthless, as far as the grain was concerned. As the greater part of the wheat in this neighborhood is cut by reaping machines, there is no danger of farmers cutting it twelve days before it is ripe, as they could not do it with machines until nearly ripe.

I notice a great deal said about saving from shelling when cut green, but let these men bind sheaves a week or two, and they will see that wheat cut even eight days before ripe, will shell in handling, more than when just so hard that the grains will not bruise between the thumb and finger.

Covering Drains.—In directions about covering tiles, I notice the joints are to be covered with a *sod, shavings or straw.* I have laid on my farm over fifteen miles of tile drains. I have a double tree, nine feet long, and I put a horse on each side of the drain, and plow the earth right on the tiles, without any covering, and I have never had a stoppage, excepting where the tiles were too small to contain the water.

I have purchased 10,000 tiles to lay this fall. A neighbor laid 12,000 last spring, and several others are going to drain this fall. The low price of wheat will be a hindrance to draining, but nothing pays as well as this business. We have another tile machine started in this neighborhood, and Mr. Whartenby, at Waterloo, is also getting another put in operation, also another kiln and sheds for drying; but the increasing demand would, I think, take more if they could be got. One of my neighbors intends laying 15 or 20,000 this fall and next spring.

In covering tiles by the plow, care should be taken that there is no stones large enough in the first furrow to break the tiles, and the first furrow should be a light one.

Plowing for Wheat.—I notice that one of my neighbors is mowing his pasture fields, with the intention of plowing them up for sowing with wheat this fall, with one plowing. I have no doubt that he may have a good crop, *provided* we immediately get good *soaking* rains, so that it can be *deep* and *thoroughly plowed;* if not, my opinion is that there will be more timothy than wheat next season. Although we have had many rains to retard hay-making, and even damage part of the hay, we have not had any *soaking* rains to wet or soften clay soils. John Johnston. *Near Geneva, Aug.* 6, 1851.

Advantages of Drainage.

The advantages of drainage are becoming more and more conspicuous as the system is adopted and extended. This will continue to be the case till the increased products and profits of cultivated land, will be augmented to an amount which is at present beyond estimation. Col. Sherwood, of Auburn, lately informed us that he had, within about a year, purchased 14,000 drain-tiles, from the manufactory of Mr. Whartenby, of Waterloo. He has laid nearly all these, and their benefit is already so obvious, that he intends to lay more as fast as they can be obtained. Col. S. showed us a field of wheat, on a part of which tiles were laid last fall. The superiority of the crop on the drained portion, was very manifest. He related an incident illustrating the effects of drainage in bringing the soil to a workable condition in spring. On a part of a field having rather a tenacious soil, he laid tiles just before the setting-in of last winter. The last spring was wet and backward, and much ground could not be plowed till very late. He intended this field for barley, the sowing of which he was anxious to do at the proper season, but was obliged to defer operations on account of the undrained land. At length plowing was commenced, and the furrows were run in such a direction as to cross both the drained and undrained portions of the field. On passing from the one to the other, the plowman was at once struck with the difference in the condition of the soil—that on the drained part breaking up sufficiently dry and "crumbly," or friable, and the other being stiff and "clammy." The plowman observed, also, that the draft of the team was plainly less when plowing the drained part than on the other. The difference in the condition of the soil was obvious when the seed was sown, and a corresponding difference was doubtless exhibited in the yield of the crop.

Flax-Cotton and Linen.

There appears to be good reason for believing that the discoveries and experiments of Claussen and others in regard to the spinning and manufacture of flax by machinery, will result in important improvements. Fabrics have already been produced in England from cotton prepared by M. Claussen's process, specimens of which, and of the cotton in various states, have been sent to this country. An editorial article in the New-York *Tribune*, speaking of those articles, says "The simply dressed fibre is as clean, as fine, as soft, as strong, as easily spun, as any Sea Island cotton, and is said to cost but nine farthings (less than five cents) per pound in England. That it would produce a fabric every way equal to the best bleached shirtings or sheetings, we have no doubt." In relation to the flax-cotton fabries, it is said—"they are at once elegant and serviceable, especially a pantaloon stuff closely resembling satinet." And of the specimens of dyed flax-cotton, it is said they are "perfect, proving the capacity of this staple to take the most delicate tints as well as the most vivid colors."

It should be here stated, that the prepared flax possesses decided felting properties, and may be formed into fabrics in combination with wool. Specimens of these fabrics, consisting of flannel and broadcloth, of various colors, and said to possess remarkable strength and beauty, have been exhibited by M. Claussen at London.

Mr. M. B. Bateham, of the *Ohio Cultivator*, writes from London that M. Claussen has disposed of his right to use his process in the United States, and that arrangements are in progress for the production of the flax-cotton here. Mr. B. suggests that farmers who are growing flax for seed, should save the straw, after the seed is threshed out, in anticipation of its becoming valuable. He states that the machinery which M. Claussen uses for reducing the straw to a suitable condition for market, is very simple, consisting merely of a series of iron rollers, propelled by horse or other power, which so crush and break the woody portions of the straw, that by shaking or "scutching" it can be mostly separated from the fibre, and is made ready for the chemical process which prepares it for spinning.

While the experiments above alluded to, have been going on abroad, others of a not less interesting nature, have been made in our own country. Dr. O. S. Leavitt, of Maysville, Ky., has invented a process for spinning unrotted flax and hemp by machinery. By this process he states that "linen fine enough for the best shirt linen can be produced from the unrotted hemp, while the unrotted flax will be run to the very finest numbers."

It is not designed by this process to bring flax and hemp into a condition resembling cotton, but to preserve the peculiar qualities of those articles in the fabrics produced from them. The inventor is sanguine in the belief that "linen can be produced as cheap as cotton goods of the same fineness when raw cotton is not less than seven cents per pound." He says,

> "There can be no doubt but, by Claussen's process, a valuable substitute for cotton can be produced from flax, and these two processes render all the flax-growing world independent of the cotton-growing. By neither process is flax wanted in its rotted state, but in the very condition most convenient for the farmer, and in which he can produce the greatest quantity."

Dr. L. states that a charter has been obtained from the legislature of Kentucky, for the incorporation of the Maysville Linen Company, and that the practicability of his process is about to be tested on a large scale.

The following is a summary of the principal points claimed to have been gained by Dr. L.'s invention:

1. The use of unrotted hemp and flax, being mowed or cradled, and not pulled, thus saving the great expense of rotting and breaking.
2. The ability to run the coarsest and most rigid hemp or flax, to the finest numbers.
3. The saving of the heretofore expensive heckling process, using a machine which removes from the *shives* the lumps and short fibres as they pass through.
4. Making not more than half the tow usual.
5. Securing uniformity and certainty of full strength of fiber, and greater consequent durability of the fabrics.
6. Rendering the bleaching remarkably cheap and simple, where it is now difficult.
7. Doing away entirely with the offensive smell and unwholesome air, now a source of such universal complaint in flax mills.

◆

French vs. American Merinos.

Eds. Cultivator—As there has been much interest manifested by the community of late, in relation to the "French Merino Sheep," and as the late importations increase that interest, I would like to know the intrinsic value of those sheep compared with the Spanish or American Merinos. And perhaps we can come at in no better way than by asking a few questions, which I wish you or some of your correspondents to answer. First, what did the pure blood French Merino wool sell at per pound, to the manufacturer, last year? or, in other words, what is its relative value compared with the American Merino? Second, what is the relative weight of the two classes, taking the feed into consideration? Third, how do their constitutions compare under the same care, and with the same quality of food? A Subscriber. *Vergennes, Vt., July* 4, 1851.

◆

Advantages of Paring and Burning Soils.

Mr. Pusey, (*Jour. R. A. S.*) states, that a piece of very stiff clay—so stiff that it appeared to be "clay untempered by any grit," and which packed so hard in dry weather that it could hardly be dug with a pickaxe—was, in 1846, drained and breast-plowed, and a part burned over—the other being left on account of wet weather. It was sown with oats, and the produce was as follows:

Where the sward was burnt,........	6 qrs., or	48 bus.
Land unburnt,....................	2	16

The same land was burnt again immediately after the oats were taken off; part was burnt and part left unburnt, on account of wet weather as before. The burnt land yielded a good crop, the unburnt a very poor one. It was again pared and burned, and sowed to wheat. The yield on the part which had been thoroughly burnt for three years, was 42½ bus. per acre.

Mr. Pusey also relates another experiment. A portion of a field was dressed with burnt clay, and a portion left undressed. It was sown to wheat and the result was as follows:

Soil simple,......................	37¾ bus.
Dressed with 80 yards burnt clay....	45½
80 yards do., and sheep folded,.....	47½

◆

Excursion to Paris.

Paris, August 9, 1851.

Eds. Cultivator—On the invitation of the Prefect and Municipality of Paris, the Commissioners, Executive Committee, Jurors of the Great Exhibition, and the Lord Mayor and a very few of the aldermen of London, left on the first instant, on an Excursion to Paris. I was fortunate in securing a place in the first train with my luggage. We started at 9 A. M., and passed rapidly to Folkestone, mainly through the county of Kent. The land on the route was rather of a light character, and the crops not very good. In fact, taken together, as poor as any I have seen, except in the county of Durham. Hops were frequently seen—appeared very well. The poles are much shorter than ours, and the vines much smaller. They looked healthy and vigorous, and a good yield is anticipated.

We arrived at Folkestone at half past 11, and immediately proceeded by steamer to Boulougne. The steamers on the route are small open boats—the cabins not large enough to hold more than 50 persons—the residue of the passengers are accommodated with a deck passage—much like working one's passage on the tow-path of the canal. The distance from Folkestone to Boulougne is about 29 miles. Soon after we left the harbor the little boat began to roll about, and the passengers, many of them, gave indications that they were out of their element. Wash-bowls, which are provided in abundance, were soon in requisition in every part of the boat, and a large portion of those on board were sea-sick, and looked the very pictures of despair. Among the number was the Lord Mayor of London, who behaved very undignifiedly for the chief magistrate of the city over which he presides, and within whose limits he allows *no soldiers* to be quartered. But these things were soon ended. In two and a half hours we were landed at Boulongne, where we found a large company of Monsieurs, with soldiers in blue coats and red pantaloons, waiting for us. The Lord Mayor of London being the lion of the party, was received on landing, by the Prefect of Boulougne, and had to make a speech in reply to an address made him, which he managed to do quite cleverly, though it smacked somewhat of *salt water*. We were then escorted to the railroad station, where a hot breakfast was prepared, sufficient for all. It was prepared in good style, abundance of fruits, such as peaches, apricots, plums, pears, strawberries, cherries, melons, &c. We did ample justice to the breakfast, and speeches, and wine, and hurras for the angle terres, My Lord Mayor, &c., were very abundant. After about two hours delay, we started off in two trains for Paris—the

Lord Mayor leading off. We passed through a level country to Amiens, about 100 miles. The whole country, as far as the eye could reach, was under cultivation. The crops generally, were quite light—comprising almost every variety of grain. There were no division or other fences on the route; the land cultivated in small plats by the peasantry, and the variegated fields of every hue, presented a beautiful appearance. There were no farm dwellings to be seen, as with us. Occasionally we passed a small village, with thatched houses, and narrow winding streets, where the cultivators of the land reside, many of them having to go miles, daily, to their work. Their implements are quite rude—the plow in general use, and in fact the only one I saw, was like the one in the Agricultural Museum, from Canada.

On the marsh land on the route, of which there was considerable, we observed immense quantities of peat, cut up, and in many places pits of it smoking, which is used for fuel, and in some instances, I presume, for manure. On many of the small grass plats in the fields, cows were feeding, tied to stakes, on others sheep, in care of a shepherd and dog. Very few pastures were seen, where there was any considerable number of cattle grazing, and meadow land is very rare. The whole country was under crops—wheat, oats, barley, buckwheat, rye, clover, red, scarlet and trefoil, sanfoin, hemp, potatoes, poppies, Swedish turneps, mangel wurtzel, &c.

The land, evidently, on this route, requires deeper plowing, and much more manure. Occasionally lime was to be seen, prepared for the land, but generally the crops, from the shortness of the straw, and the light heads of the grain, gave evidence of a lack of proper culture. Much of the grain was being cut. A cradle with short fingers was in use. They cut with this towards the grain, as with the sickle. Women are employed in all varieties of work in the fields, and old men generally with them. Very few young men, comparatively, are in the fields. They, I presume, are in the army of the Republic, to keep the people in subjection.

When we arrived at Amiens, which is quite a large town, we found a great crowd gathered, and a large party of military in ferocious looking caps, and abundance of hair upon their faces, who were regaling themselves at a table which had been liberally prepared for my Lord Mayor. We alighted, and prepared to do justice ourselves to the viands which were left, and several of us were in time to do our part to the remains of the feast, but the bell rang for the cars, and we hastened to our seats, and *remained for half an hour*, while the soldiers demolished the whole of the repast, wines and all! We thought this was rather rich for La belle France! but we took it as a very fair joke, and passed on. We arrived in Paris about 12 at night, and having taken the precaution to engage rooms some days previous to the fete, we found comfortable quarters, which very many were unable to obtain. The next morning Paris was opened up to us, with all its beauties and splendid palaces, churches, &c..

In the afternoon, or rather evening, 7½ o'clock, we had the dinner served up to some 500, in a style, that few can equal. The room itself was one of the most splendid I have ever seen—most gorgeously decorated, with splendid paintings, statuary of busts, lighted by nearly 3,000 wax lights. No account can do justice to it. The dinner was most admirably got up, enough for all, a plate for each, and 300 French waiters, who did not wait for a call, but anticipated your every want, and studiously furnished to each the very best provided. After the dinner was concluded, a speech from the Prefect of the Seine, answering to our Mayors, was responded to by Lord Granville on behalf of the Royal Commissioners, and one from the President of the Municipal Council of Paris—was responded to by the Lord Mayor of London, and an adjournment was had to the other rooms of the hotel, where several thousands were assembled, to listen to the music of a concert which came off as soon as the dining room was arranged for that purpose. The afternoon of the next day, the Palace of Versailles, its ground, gardens and fountains were all opened to the guests and the public. The Palace founded by Louis XIV, is an immense structure, furnished in a manner the most costly and elaborate that can be imagined. Every room was ornamented with superb paintings of the Kings, Marshals, Constables, &c. of France, from its earliest history, down to Louis Philipe. The great victories of the Empire, from the earliest dates to the conquest of Algiers, and the battle of Navarino. The paintings of Napoleon's reign are among the most attractive, though one of the Algerine battles struck me as a picture that would bear study better than almost any other in this great collection. The palace is so extensive, and the rooms so numerous, that it took upwards of three hours to pass through it and catch even a glimpse of its many paintings and statuary. They have our American officers and statesmen of the Revolution—Washington, Hamilton, Franklin, &c., and the surrender at Yorktown is admirably given, with portraits from life of the French and American generals and officers.

The fountains were let to play at a cost of 10,000 francs. They are scattered in different directions over the entire grounds through the avenues of trees, very tastefully arranged, and more than a thousand jets were throwing up columns of water altogether, producing a scene the *tout ensemble* of which probably cannot be seen elsewhere, the world over. I could not but reflect as I sauntered through the palace, the garden and the grove, who built these splendid palaces, and who furnished the means. They were erected to idolize a man, who has passed away for ever. They were erected by the toil and sweat and blood of the people, who in those days were esteemed as fit instruments to live and toil and die merely to gratify human pride and ambition. May that day never arrive when our country shall be trampled down by the despot, erecting the monuments of his triumph upon the ruins of our free institutions!

After returning to town in the evening, we walked through the grounds and gardens of the Tuilleries, Champs Elysees, &c. Here we found, apparently, the whole population of Paris, engaged in every kind of amusement. Theatres, circuses, mountebanks, gaming tables, and lighter amusements, were all in full operation, open to all, and the people enjoying, to all appearances, this motly scene right well. On returning, we went through the Boulevard, the great fashionable promenade of the city. The most fashionable part of this promenade is the Boulevard des Italiens. Here loungers of both sexes seat themselves and pass most of the day. The gaiety of this spot, until after midnight, exceeds all description. Chairs are placed in front of the splendid Cafe's and Restaurants, which are let at two sous each. As we passed along we found througs of gentlemen and ladies seated around little round tables sipping their coffee or wine, while crowds were pressing along on the wide sidewalk, and carriages rolling noiselessly, almost, over the nicely McAdamized streets. The streets are brilliantly lighted, as are the cafes, and the places of resort, and the whole presented an appearance the most enchanting that can be imagined.

The next day was a reception at St. Cloud by the President of the Republic. This is a spacious palace, similar in its character to Versailles, though not as extensive, though equally rich in its decorations, paintings, &c. and connected with which are many interesting recollections. It was the favorite residence of Marie Antoinette, Josephine, Maria Lousia, Napoleon, and Louis Philippe. The grounds are very beautifully laid out—fountains are particularly arranged, and play admirably; and the whole presents a combination of luxuries that would enable one, who otherwise was rightly prepared for it, here to enjoy himself to his heart's content, and also, to bless others in the free use of these splendid walks, and gardens, &c.

A dinner was served up here for 2,000, but only 500 could get into the orangerie, when it was laid out, so that great scrambling was exhibited for the feast which was long delayed, and it was more than two hours before the most modest were privileged with eating even a morsel. But as all things must have an end, this was ended late in the night, and the wearied out visitants, returned within the walls to slumber.

At each avenue out of the city are gates, at the Barriers, as they are called. There guards are stationed to receive the tolls for everything, almost, that pass into the city. So at Versailles, as we approached the barrier, being in a private carriage, we were stopped and asked if we had any thing liable to duty, before we passsed in. I believe this custom exists in all the principal towns in the kingdom.

The next day I visited with Mons. Vattemare, some of the public offices, connected with the Bureau of Commerce and Agriculture, and found the heads of the departments very attentive, and anxious to learn much about our county. B. P. J.

WHAT CAUSES THE DIFFERENCE?—The *North British Agriculturist*, speaking in reference to the difference in the quality of the flesh of different breeds of animals, says,

As regards the Black-faced Cheviot, and South-Down breeds of sheep, the West Highland, and Angus breeds of cattle, the flesh of these, if not more nutritious is at least palatable. The Short-horns, Herefords, and Devons, when fattened at a proper age produce beef of excellent quality, but is often deficient in that finely flavored taste which distinguishes such breeds as the West Highland. How much of this is owing to the nature of the breeds, or to the food upon which they are reared, are questions which we think have not received that attention from scientific men which the subject demands.

University of Albany.

Department of Scientific Agriculture.

The Trustees of the UNIVERSITY OF ALBANY, convinced of the vast importance which they should attach to the subject of improvement in Agriculture, have made this an object of special attention in their first steps toward the organization of a complete Scientific School.

Nearly all of our more intelligent farmers are now sensible that their profession is one which should be studied; that it is a profession in which the specially educated man occupies the same position of advantage that he does in every other pursuit of life. The old cries of opposition to all theories, and of condemnation against all books, are now fast yielding to an eager desire for instruction, and to at least a partial belief in the efficacy of science. Indeed some farmers go much farther than this, in expecting results that are at present certainly not within the range of possibility, and that there is little reason to suppose will ever be realized.

Instruction then is needed to supply what is called for by one class, to confirm the still doubtful minds of another, and to sweep away the too extravagant expectations of a third. It is also needed to enlighten the minds of a class, still it is to be feared exceedingly numerous, who look upon all progress with incredulity and suspicion, and who frown indignantly upon the idea that any one can impart new light to them in the way of their own business. Under the influence and the practice of such men as these, a great portion of our land is now deteriorating under cultivation, and will continue to deteriorate, until it reaches at last the condition of certain tracts in some of our older States, where the crop does little more than return the seed sown. Every year of the system now pursued by vast numbers of our farmers, increases by an immense amount, the labor and the expense that will be necessary in restoring the land again to a proper state of fertility.

That this evil is felt, that it is endured with impatience, is attested by the great numbers of active and influential societies for the improvement of Agriculture, in so many parts of the country; by the increasing patronage extended to agricultural books and periodicals; by agricultural surveys, past or in progress; and by the numerous efforts toward the establishment of schools where scientific agriculture shall be the end and aim of study.

The reasons which operate so strongly in recommending Albany as the proper place for the location of a great Scientific School, tell with redoubled force when the organization of the Agricultural department is considered. The capital of the greatest, most wealthy, and most powerful State of the Union; a State, too, more fully alive than any other to the cause of Agricultural improvement; the nucleus of the most powerful and influential Agricultural society of the Union, a society whose annual shows bring together a greater concourse than those of any similar society in the world; the most desirable and accessible position with regard to the New England States, and on the great lines of communication North, South, and West, it presents a combination of advantages that may be properly called unequalled.

In view of such arguments as these, in view of the often expressed desire of the people of this State for at least the commencement of an institution which should have some special reference to the wants of its farming population, the Trustees have decided to go as far during the present season, as their means and the short time available for organization will allow.

They, therefore, announce a course of Lectures by Prof. JOHN P. NORTON, now for some years in charge of the Department of Scientific Agriculture in Yale College. Prof. Norton will commence his course in the first week of January, and continue it during the ensuing three months. This course is designed especially for the practical man, and the subjects are intended to be presented in such a manner as to be perfectly intelligible to those who have never before attended to such studies. A complete and detailed outline of the general connections between science and practice will be given, and will be fully illustrated by experiments.

The substances of which the Soil, the Plant, and the Animal consist, will be shown and their properties described. The Soil will call attention first, with regard to its composition in different localities, its resulting fertility or barrenness, the means of improving it by drainage, the composition and effect of manures applied, and the most economical methods of fertilization.

To this will succeed the Plant, with an account of its structure in various parts, its composition so far as our crops, common trees, and fruits, are concerned, with the various theories of rotation; in this part of the course the nutritive value of the different crops is dwelt upon at considerable length, and illustrated by very full tables.

To such statements a notice of the Animal economy will naturally succeed, prefaced, however, by two or three Lectures on butter and cheese, giving the most authentic theoretical and practical information on all points connected with their manufacture, preservation, &c. After this come the various theories of feeding and fattening animals, with references to numerous practical examples.

By such a course the various beautiful theoretical and most important practical connections, between the soil, the plant, and the animal, will be distinctly brought forward, and impressed upon the mind of the hearer. Recitations and conversational meetings will be held in connection with the lectures, for such as choose to attend them.

Prof. James Hall, of the N. Y. State Geological Survey, will lecture at the same time on Geology, and so much of Mineralogy as is necessary to the comprehension of his subject. This course will have especial reference to the bearings of Geology and Mineralogy upon agriculture, and other economical interests. The practical advantages of the connection of geological with agricultural science, will be briefly pointed out in the course by Prof. Norton; in this course these subjects will be more fully elucidated, and the student, aided by the State collection, and the very fine private one of Prof. Hall, will have an opportunity of obtaining such knowledge as will be of much value in after life, whatever may be his profession, and will besides be productive of infinite pleasure, as he may have occasion to visit various sections of our country. Geological and mineralogical information, when possessed, is always called into frequent action, and gives its possessor weight and influence in any community.

A course on Entomology, with special reference to the injurious or beneficial action of insects on vegetation, may also be expected. This course will be by Dr. Henry Goadby, formerly of the Royal College of Surgeons, London. This gentleman will be able to illustrate his course by a collection of specimens altogether unrivalled, and exhibited to the class by means of the oxy-hydrogen and the compound microscope. The advantages to be derived from such a course are entirely obvious, and have, moreover, been hitherto quite unattainable in this country.

Arrangements are in progress which will enable students to attend a course on Engineering and Surveying, a knowledge of which subjects would prove highly valuable and also remunerative to every practical farmer.

Prof. Cook, Principal of the Albany Academy, will deliver a course of lectures on Elementary Chemistry, to such students of this department as may desire it; the course to be both experimental and practical.

It would seem that any practical man must see the advantage of attendance upon such a course as has been dwelt upon in the foregoing portion of this circular. Science is brought forward and inculcated, not to supersede practice, but in its aid. The information given is upon points which are really of vital importance, a knowledge of which ought to be looked upon as absolutely essential to every farmer. These Lectures, too, come at a period of the year when comparatively little is doing on the farm, and may thus be attended without neglecting any material interest.

The importance to a young man of thus residing for a time within the atmosphere of a literary institution, can scarcely be overestimated. He comes in contact with others who are also bent on improvement, and has almost unlimited access to books; he learns to think for himself—to see that a practice is not necessarily right because it is old; he becomes favorably disposed to the adoption of every useful improvement, and the whole circle of his ideas and intelligence is permanently enlarged; he makes his profession an interesting study, not a mere routine of hard work, and while better paid for exertion, as superior well-directed knowledge always is, he takes a higher rank in society, as a man understanding his own business better than those who have not enjoyed like opportunities.

It is intended to offer free tickets to the courses on Scientific and Practical Agriculture, on Geology and Mineralogy, on Entomology, and probably on Engineering, Anatomy and Physiology, to two young men in each senatorial district of the State, the tickets to be at the disposal of the several Senators. The same privilege will be extended to each of the Colleges in the State, the students to be selected by the faculty of each College from the graduating class of the previous year. It is hoped that this liberality may be continued in subsequent years, that in this way sixty-four young men may be annually aided and sent out to all parts of the State, to disseminate the valuable information which they have obtained. The tickets for the Agricultural Lectures will be $10; for the Geological $10; for the Entomological course $5. All are payable in advance, but the student only attends such as he may select.

The price of board in respectable families varies from $2 to $2.50 per week, exclusive of washing. Two or more young men, by clubbing together, can hire a room respectably furnished, for the purpose of lodging and study, for fifty cents each per week, and can furnish themselves with food, fuel, light, and everything except washing, at a total expense of from $1.37½ to $1.50 per week in winter.

For farther information apply either to Prof. John P. Norton, New-Haven, Ct., to Prof. James Hall, Albany, or to B. P. Johnson, Esq., Secretary of the N. Y. State Ag. Society, Albany.

Another circular, in pamphlet form, stating the general objects and plan of this University at length, will soon be issued, and can be had on application as above.

The annual course of Lectures in the Albany Medical College, commences on the first Tuesday of October, and continues sixteen weeks. The corps of Lecturers, eight in number, is full and able, the museum unsurpassed in this country, and the other facilities of a high character. The full fee for all the courses is $70. Graduation fee $20.

On the third Tuesday of December will commence the first course in the Law Department of this University, under the charge, as professors, of Hon. Ira Harris, L. L. D., Hon. Amasa J. Parker, L. L. D., and Amos Dean, Esq. With the advantage of one of the best Law Libraries in the country, of excellent teachers, and the holding of frequent courts, it is obvious that this Law School will offer unusual facilities to the student. The course will continue sixteen weeks, the fee for the entire term being $40. Full circulars may be obtained from Prof. Amos Dean, Albany.

Phosphate of Lime.—Mr. Joseph Harris, of Rochester, states in the *Genesee Farmer* that the mineral phosphate of lime used in England as manure, contains 50 per cent of phosphate, and is sold when prepared for use with sulphuric acid, at $25 per ton. The phosphate of lime at Crown Point, in this state, contains, as we have before stated, according to the analyses of Prof. Emmons and Prof. Norton, from 80 to 90 per cent of phosphate. This will afford a criterion of its value compared with the English article. Mr. Harris states that he has seen the prepared phosphate applied to various crops. Its effects were greatest on turneps—often increasing that crop four fold. Its effects on leguminous plants, clover, beans, &c., were beneficial; on wheat, but little benefit was derived. He suggests that it may prove of great use in tobacco culture.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand, since our last, from H., M. S. Bidwell, T. B. Miner, C. E. Rappe, F. Partridge, Solomon Leonard, An Inexperienced Fruit-grower, J. J. M., D. E. C. Braman, B. H. Andrews, A Young Observer, T. F. Eyre, J. W. Gray, Prof. J. P. Norton, B. P. Johnson, D. T., Oliver Moore, L. Durand, H.-C. W., W. G. Edmundson, Samuel Logan, J. Conant, A. C. D., B., S., A Subscriber.

Books, Pamphlets, &c., have been received as follows: Transactions of the York county (Maine) Ag. Society, for 1847, '48 and '49.——Half a dozen new Chrysanthemums, from Geo. G. Thorburn, Esq., Astoria,——Muck Manual for Farmers, by Samuel L. Dana, 3d ed., revised and enlarged, from the publisher, J. P. Walker, Lowell.

Albany University.—It may not be known to all our readers, that an institution under this name was organized several months since. It comprises three general divisions: Law, Medicine, and a School of Theoretical and Practical Science, which includes Agriculture. In reference to the latter department, we publish a circular in this number, to which we invite particular attention. The department is under the charge of Prof. P. Norton, who, it will be seen, announces a course of Lectures on Scientific and Practical Agriculture, to commence the first week in January next, and to continue during the ensuing three months. We think this institution presents peculiar advantages for the acquirement of knowledge in all branches embraced by its general design. To the young farmer, especially, the School of Theoretical and Practical Science, offers facilities superior to any to be obtained elsewhere in the country. In addition to the lectures of Prof. Norton, it will be seen that the labors of Prof. Hall have been secured in reference to the economical illustration of the sciences of Geology and Mineralogy, and also the services of Professors Goadby and Cook, on Entomoly and Elementary Chemistry.

Astronomical Observatory.—We learn that nearly $20,000 have been subscribed towards the establishment of an astronomical observatory in this city. Of this sum, $10,000 has been generously donated by Mrs. C. E. Dudley. The land for the site has been given by Stephen Van Rensselaer, Esq. The institution will be placed under the charge of the distinguished astronomer Professor Mitchell, and will form a department of the Albany University.

Flour from Mediterranean Wheat.—We have received from Dr. Crispell, of Hurley, Ulster county, N. Y., a barrel of flour manufactured from this wheat. It has been tried in most of the various forms of cookery, in all of which it gives entire satisfaction. It evidently contains a larger proportion of gluten than ordinary flour,—in popular language it is "stronger,"—absorbs more water, and makes more bread from a given quantity of flour. The bread has a slight orange tinge, but is light, and of peculiar sweetness. It is only necessary that the miller and cook understand their business, for this flour to be highly esteemed.

Sheep from Africa.—Several papers have spoken of an importation of sheep from Africa, lately made by a gentleman in Salem, Mass. They are said to be distinguished by "the enormous fatness of the tail," &c. Some suppose they are of a race not heretofore described; but we see nothing in the description of them, indicating their difference from the broad-tailed African sheep, which were introduced into this country fifty years ago.

Lard Oil.—There are said to be in Cincinnati, forty manufactories of lard oil, which use 15,000,000 pounds of lard per annum. Of this, 5,120,000 pounds is converted into stearine, leaving 4,480,000 pounds, equal to 1,110,000 gallons of oil. The hogs of our western states will soon come into strong competition with the whales of the Pacific Ocean.

The Augusta Rose.—We have received a specimen flower of this new climbing rose, from Messrs. Thorp, Smith and Hanchett, of Syracuse. It is a fine rose, emitting an abundant and delightful fragrance. Messrs. T., S. & H. say—"It is a free bloomer in clusters of three to six, and the foliage is magnificent." We presume it will be an acquisition.

☞ Messrs. Jas. D. and Wm. H. Ladd, of Richmond, Jefferson county, O., have lately purchased in Vermont a valuable colt. He was bought of Mr. C. M. Fletcher, of Orwell, Vt.; was foaled May 17th, 1848; by Black Hawk; dam, a fine mare, showing much of the Morgan character, now owned by Mr. Wicker, of Ticonderoga, N. Y. We had the opportunity of seeing this colt as he passed through this city on his way to Ohio, and congratulate Messrs. L. on their success in obtaining an animal of rare excellence. We cannot doubt that he will prove an important acquisition to that section of the country.

The Vermont State Fair was held at Middleburry Sept. 10. It is spoken of as eminently successful. A notice of the Fair was expected from a correspondent, but has not come to hand. We shall speak of it more at length next month.

Wind-power for Saw-Mills—Machinery for making Castor Oil.—A correspondent in Texas wishes information in regard to the best application of wind as a motive power for saw-mills; also in regard to the best mode of manufacturing oil from the castor bean. Any person giving information on these subjects, through our pages, would confer a favor.

Albany and Rensselaer Hort. Society.—The annual show of fruits of this Society, took place on the 10th and 11th of September. It was one of the best exhibitions that has taken place since the society was organised. In plums and pears the display was very fine, and in flowers and vegetables there was a highly creditable show, considering the severe drouth. Some new varieties of plums were brought out, for two of which premiums were awarded. One of these was a light colored plum, produced from seed of the Green Gage, by by Isaac Denniston, and named "Dorr's Favorite." It is of excellent quality. Mr. D. also exhibited another seedling of the Green Gage, so exactly resembling the parent as to be pronounced identical. The other seedling for which a premium was awarded, was raised by **Wm. Hallenbake**, of Greenbush. It is of very large size, fully equal to the Red Magnum Bonum, which it very closely resembles in size, shape, and color, but is far superior in quality, and was considered equal to the best dark-colored plums.

Importation of Jersey Cows.—We are informed by Hon. B. V. **French**, of Braintree, Mass., that the trustees of the Massachusetts society for Promoting Agriculture, have lately imported from the Isle of Jersey, several fine cows of the Jersey, or Alderney breed. Mr. F. says, "I have seen one of them, which was purchased for Mr. **Geo. R. Russell**, of Roxbury, and I must say that this animal more than met my expectations. She is good tempered, and of handsome form."

Good Fleeces.—Mr. B. H. **Andrews**, of Waterbury, Ct., writes us that he has a flock of "Escurial Merino', sheep, (he does not tell the number,) which gave an average yield of "four pounds and nine ounces of clean washed wool per head." He states that the fleece of his pure "stock buck" weighed eight pounds and three ounces, and that when sorted by the manufacturer to whom it was sold, about two-thirds of it went into the grade called "pick-lock."

Wheat crop of Wisconsin.—While almost every part of the country has produced the present season a bountiful crop of wheat, we are sorry to learn that over a large portion of Wisconsin, the crop was almost an entire failure. This, in addition to the partial deficiency of the previous year, has involved many of the farmers there in serious difficulties—especially those who were in debt for improvements (buildings, fences, &c.) which they had commenced. They will doubtless find their accounts in directing their attention to a mixed husbandry, or a variety of products.

CRANBERRY VINES.

100,000 Cranberry plants—(suitable for transplanting at any place south of New-York, this fall)—and can be forwarded to any part of the Union safely packed. For sale by.

Oct. 1, 1851—1t. F. TROWBRIDGE, New-Haven, Ct.

PEAR STOCKS.

THE subscriber has for sale at his nursery in Ferrisburgh, Addison county, Vermont, TWELVE THOUSAND PEAR STOCKS, from 10 to 24 inches high and of stocky growth. They can be sent by Railroad or Steamboat to any part of the Union.

R. T. ROBINSON.

Ferrisburgh, Vt., Oct, 1—1t.*

Splendid Farm in Ohio for Sale or Rent.

WE have a splendid farm for sale or rent, containing about 300 acres. It is situated 21½ miles west of Columbus, and within 2½ miles of London, the county seat of Madison county. An excellent McAdamized road, from Columbus to Xenia, passes through it. The access to market either east or south, is easy and quick. The railroad from Cincinnati to Cleveland has a depot at London, 2½ miles from it.

About 125 acres of the land are cleared and under good improvement. The balance is well timbered, and the whole is under fence. It is well watered, having springs or streams in abundance.

On it is a substantial brick dwelling house and two other comfortable tenements. The orchard contains about 200 apple, peach and pear trees. The whole farm is well adapted for raising grain, or corn, and would make an admirable dairy or stock farm.

The proprietor has made arrangements in the west to go into another kind of business, and will sell the above farm on reasonable terms. If not sold by winter the above farm will be rented for a series of years.

For terms apply at this office or to

VOMBAUGH & WHEELER,
Real Estate Agents, Columbus, O.

Oct. 1—4t.

WALWORTH NURSERY.

IN addition to his usually extensive assortment of Fruit Trees, the subscriber has 8000 extra large size Apple Trees, mostly Roxbury Russet—also, a few thousand, 3 years old, Pears on Quince. Trees in large quantities, sold at very reduced prices.

T. G. YEOMANS,
Walworth, Wayne county, New-York.

Oct. 1—1t.*

BLOODGOOD NURSERY,

Flushing, L. I., near New-York.

KING & RIPLEY, Proprietors, have on hand their usual large supply of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Gooseberry and Currant bushes, Grapevines, Hedge plants, Respberries, Strawberries, &c. Their Trees are of large size, thrifty growth and well rooted, and we can furnish nearly all the new varieties. Orders sent to them at Flushing, L. I., or 214 Pearl st., New-York, (where catalogues may be obtained gratis,) will receive immediate attention, and the trees packed with great care for transportation. Oct. 1, 1851—1t.

Fruit and Shade Trees.

FOR sale at Mount Ida Nursery, Troy, N. Y., a choice variety of FRUIT TREES, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds.

Currants, Gooseberries, Raspberries, Grapevines and Strawberries, of the choicest varieties.

Also a good variety of shade trees, consisting of Scotch Elm, English Sycamore. Linden, Horse Chestnut, Mountain Ash, Larch, Ash, Oak, &c. Evergreen Privet and Buckthorn, for Hedges.

Rhubarb and Asparagus Plants, &c. Catalogues and other information can be had of the Nurseryman. JOSEPH CALDWELL.

Troy, Oct. 1, 1851—1t.

FRUIT TREES.—SPECIAL NOTICE.

THE PROPRIETOR is desirous of disposing of a large portion of the Fruit Trees in his Nurseries at Hawthorn Grove, Dorchester, Mass., with a view to improvements on the grounds the coming season.

The collection of Pears, Cherries, Plums, and other Fruit embraces almost every approved sort of American or Foreign origin extant, and is scarcely surpassed in excellence or extent of variety.

Special Cultivation has been bestowed on the Pear, and many thousands of thrifty vigorous trees are now ready for transplanting.

Extra size Trees, with fruit buds, either on the quince or pear stock, and such as will soon commence bearing, can be supplied at moderate prices.

Also all the new varieties of Pears, Cherries, Plums, Raspberries, Currants, Strawberries and other fruits, and at rates less than is generally charged for novelties

Scions for exportation and the home trade can be had from fruit bearing trees, thereby ensuring correctness of nomenclature.

Selections, where desired, founded on the experience of many years, will be made by the proprietor, and which will seldom fail to please the correspondent.

Address,—"The Superintendent of the Nurseries, at Hawthorn Grove, Dorchester, Mass.," to the care of the subscriber,

MARSHALL P. WILDER, No. 2 Pearl st., Boston.

N. B.—Grove Hall Coaches leave No. 11 Franklin street, four times each day. Oct. 1—1t.

Southern Fruit.

Hopewell Nurseries, near Fredericksburg, Va.

THE proprietor offers for sale a large stock of Fruit and Ornamental Trees, Evergreens, Roses, &c. His stock of Apples is very large, well grown and thrifty. Having witnessed the evil of circulating numerous Northern Fruits, without proper regard to proving their quality, and adaptation to a Southern climate, the proprietor has looked more to the South for his winter Apples, and has introduced many superior varieties, perfectly adapted to our long, hot summers, and keeping until April and May.

Also, a large stock of Pears, Cherries, Peaches, Plums, Apricots, Grapes and other fruits, Roses, &c., his prices are low, for particulars see Catalogue, which will be sent to all post-paid applicants; trees packed in the best manner, and shipped according to orders,

Oct. 1, 1851—1t. H. R. ROBEY.

D. Prouty & Co.'s Premium Plows.

THE subscriber keeps on hand for sale, these justly celebrated Plows.

No. 5½ received First Premium for old land and stubble plowing, at the great trial of plows by the New-York State Agricultural Society, in 1850.

No. 40 has been got up within the past year, and was designed mainly for furrows 10 inches wide, and 7 inches deep. It has been thoroughly tried, and with results perfectly satisfactory. It is undoubtedly the most perfect plow ever constructed. It has lately received a medal at the World's Exhibition, in the trial of plows not made in Great Britain, the required furrows being 9 inches wide and 6 inches deep.

Also, for sale the MICHIGAN SOD AND SUBSOIL PLOW, designed for deep plowing and thorough pulverization, for which it is considered unrivalled. It received a special premium, equal to the highest offered, at the trial by the State Agricultural Society, 1850.

Prices—No. 5½, with draft-rod and wheel,	$12 00
without draft-rod,	11 50
No. 40, with draft-rod, and wheel,	11 50
without draft-rod,	10 50

WILLIAM LANSING, Greenbush,
opposite Albany.

Oct. 1—1t

NEW STRAWBERRY, McAVOY's SUPERIOR.

THIS is the Strawberry which has just obtained the premium of $100 offered in 1847 by the Cincinnati Hort. Society for a new seedling superior to any in cultivation. It is the largest sum ever awarded for an American fruit. Mr. Downing in the Aug. number of the Horticulturist, says: "As Cincinnati is noted as the finest Strawberry market in the world, and as the Horticulturists there are especially acute in Strawberry lore, we naturally look for great merit in this prize production doubly endorsed." The Fruit Committee in their report, speak of it as follows: "McAvoy's No. 12 Seedling, we propose to call McAvoy's Superior; the specimens exhibited are superior to Hovey's Seedling, or any other strawberry that came under the examination of the committee, and is entitled to the premium of $100 offered by this Society in 1847."

Mr. McA. writes us that he has cultivated this fruit for several years, has tested it thoroughly, and that it is admitted by all who have seen it to be the most superb strawberry ever produced. Strong plants, now ready, $1.50 per doz.

Three dozen fine varieties of Strawberry, including Burr's New Pine, Richardson's Seedlings and all the new and best old varieties, with the above, for $12. Address, B. M. WATSON,

Oct. 1, 1851—1t. Old Colony Nurseries, Plymouth, Mass.

SYRACUSE NURSERIES.

THORP, SMITH, HANCHETT & CO., proprietors, Syracuse, N. Y., having 100 acres closely planted to Fruit and Ornamental Trees, Roses, Shrubbery, Green House Plants, &c., we shall have for sale the coming season, a most extensive stock of Nursery commodities, not to be excelled in size and beauty by those of any establishment in the Union. Nurserymen, Amateurs, Orchardists, and Venders, are earnestly invited to call, examine and judge. Our stock of

STANDARD FRUIT TREES,

Comprises all of the best varieties of Apple, Pear, Plum, Cherry, Peach, &c., of such sizes and quality as no contrast can disparage. We have also, both by importation and of our own cultivation,

PYRAMIDAL, OR DWARF TREES,

Of the Apple, Pear, and Cherry, designed for compact planting, being thereby *especially* desirable for small lots, Gardens, &c., as well as *generally* so, by reason of their habit of early bearing. We have all of the approved varieties cultivated in this form, from one to four years old—many of the Apples and Pears being now in bearing.

OF THE SMALLER FRUITS,

Currants, Gooseberries, Raspberries, and Strawberries, we are always fully supplied with all the best old and new sorts.

OF ORNAMENTAL TREES,

For the street border, and lawns, our stock is very large. Our Horse Chestnuts and Mountain Ash are particularly noticeable for their luxuriant growth and surpassing symmetry of form. They uniformly excite admiration.

Evergreen Trees, in great variety, new and rare, including Lebanon and Deodar Cedars, 4 to 6 feet high; Japan Cedars; Spruces; Junipers; Taxodiums; &c.

Pæonies—A splendid collection of both *tree* and *herbaceous* varieties.

Dahlias—One hundred and fifty selected sorts, comprising the finest English prize flowers, with all the best in the U. S. 25 to 50 cents each for whole roots.

Phloxes—Over fifty of the choicest kinds.

Roses—A most extensive assortment, comprising 6000 plants of the best varieties, and all the new acquisitions; amongst them the new Perpetual Striped Moss, Herman Kegel, the Hybrid Perpetual, Caroline de Sausel, Gen. Cavignac, Gen. Changarnier, &c.

Bulbous Roots—A choice collection daily expected from Holland, consisting of Double Tulips, Hyacinths, Crocuses, &c.

Plants for bedding out, of every description; *Vines, Climbers, &c.*

Cherry, Apple, and Pear Seedlings; Buckthorn, two and three years old, very strong plants.

All of which will be sold as low as at any other establishment, and in many cases lower, either at wholesale or retail.

We are now issuing a new edition of our Catalogue, containing full information of our productions, terms, prices, &c., embracing, 1st, a general descriptive catalogue; 2d, a full catalogue of select Green House Plants; and 3d, a special catalogue of Dahlias, Phloxes, and Bedding out plants; which will be sent gratis to all post-paying applicants.

☞ Mr. H. Warren, proprietor of the Agricultural Store, 315 River Street, Troy, N. Y., is our authorized agent to receive orders.

THORP, SMITH, HANCHETT & CO.

Syracuse, Oct. 1—2t.

A Choice Farm in Ohio for Sale,

LOCATED in Stark county, three and a half miles south of Massillon, containing three hundred and three acres about two hundred and twenty-five acres cleared, and in a high state of cultivation. The balance in timber, principally white oak.

The improvements consist of a frame tenant house and barn, a Gothic Cottage, built of stone, beautifully located, commanding a view of the whole estate; a thrifty young orchard of choice apple trees, &c.

The cleared land is a level plain, soil of a superior quality for the production of wheat, free from stumps, and all obstructions to a good system of cultivation. The timber land is what is termed rolling, and elevated about thirty feet above the plain. The Erie and Ohio canal pass through the farm, forming the western boundary, and the Pennsylvania and Ohio Railroad within three miles. In short, it is one of the most desirable estates in Ohio.

The owner being permanently located in a foreign country, is the reason for the farm being offered for sale.

For further particulars direct, post-paid, to the address of the subscriber, C. NESENER, Massillon, Ohio. Oct. 1—4t.

STATE AGRICULTURAL WAREHOUSE.

EMERY'S, Kell's, and Wheeler's Horse Powers and Threshers. Hovey's, Clinton's Tower's, Sinclair's and Botts, Straw and Stalk Cutters.

Vegetable Cutters for slicing up potatoes, beets, &c.

Corn Shellers of various patterns.

Fanning Mills of Bryan's make, this is considered one of the best Mills in use.

Clinton's, Bamborough's and other makes.

Prouty & Mears' premium Plows of all sizes.

Minor & Horton's and Eagle Plows.

Harrows of Geddes, Triangle and Scotch patterns.

Paring Plow, a superior article made under the direction of Prof. Mapes.

Subsoil Plows, of Weirs pattern, which is half the draft of the old style.

Ox or Road Scrapers, Seed Sowers, Cultivators, &c.

Field and Garden Seeds.

Fertilizers, such as Guano, Bone dust, Bone Coal, Plaster, Poudrette, Bone Manure and Sulphate of Soda. For sale by

GEO. H. BARR,

Oct. 1—1t. No. 25 Cliff street, New-York.

NEW INVENTION.

Wheeler's Combined Thresher and Winnower.

(*See engraving on page* 338)

IN the successful completion of this Machine, the long desired object is attained of Threshing and Winnowing grain with but two horses, and at the same time with satisfactory and desirable speed and despatch. The *Combined Thresher and Winnower* is so simple in construction that the works are all driven by two bands, which include the one which geers it to the horse power. There is consequently but little friction produced, and the liability to get out of order, which complicated Machines are subject to, chiefly avoided. The *Thresher and Winnower* is well adapted to Field Threshing. being light and compact, and requiring but little time to load and unload it. The whole Machine, including the Horse Power, is conveniently carried on a two horse wagon, the weight being less than 2500 lbs., and can be unloaded and set in readiness to work in less than 30 minutes and re-loaded ready to move in the same time.

Several of these Machines have just been put in operation in different sections of New-York, and some of them by men who have heretofore used the most approved kinds of Machinery for Threshing and Cleaning, but which they have thrown aside and taken ours, after having thoroughly tested it. They are Threshing and Winnowing about 150 bushels of Wheat per day, and twice that quantity of Oats, and are doing their work in the most satisfactory manner. Four men and two horses are all that are required to work the Machine.

We have spent much time and money in accomplishing the desirable object of Threshing and Winnowing at one process with so small a power as two horses and at the same time with sufficient speed for all practical purposes and we now offer the Farming Community this machine, as the result of our efforts with the most entire confidence in its success. Orders addressed to the subscribers at Albany will be promptly attended to.

Oct. 1, 1851. WHEELER, MELICK, & CO.

To Nurserymen, Gardeners, and others.

THE subscriber wishes to sell his farm, of 68 acres, situated in the beautiful town of Northampton, Hampshire county, Mass., located about half a mile from Dr. Chas. Mundee's celebrated Water Cure Establishment; also about half a mile from half a dozen Silk, Cotton, Button and other manufacturing establishments, and about two miles from the Depot of the Connecticut River Railroad. The main buildings are a good ice-house and valuable barn, with two tenant houses, one-quarter of a mile distant; all of which are nearly new. A portion of the land is in a very high state of cultivation, the grounds are laid out in modern style, and are planted with shrubbery, and a large number of choice young Fruit and Ornamental Trees. Plenty of wood and water on the premises.

It is considered one of the pleasantest and best places in the western part of the town; being a desirable location for a Gardener or Nurseryman, and a good place for a Livery Stable, one having been kept there for the last six years. Some 8 or 10,000 young Fruit Trees, of choice varieties, and very thrifty, will be sold with the place if desired, and the nursery business given up to the purchaser (a portion of the trees now fit to transplant.)

Any number of acres, from six and a half upwards, will be sold with the main buildings, at a very low price. From $800 to $1,500 would be required down; the balance might remain on mortgage for a long time if desired, GEO. A. HILL.

Northampton, Mass., Oct. 1—1t.

Extensive Sale of Real Estate in Virginia.

ON the 10th day of November, 1851, will be sold to the highest bidder, in Williamsburgh, 2787 acres of land belonging to the estate of the late John Maupin, lying between said city and Jamestown: 350 acres of which are highly improved, also about 100 acres of the richest meadow. The other portion is abundantly studded with valuable oak and pine timber easily accessible by water, a part of which lies on a navigable creek, where is located the brick work of a once valuable manufacturing water mill, to which vessels may float, and which creek empties into James river, one mile distant therefrom. These lands will be sold in tracts to suit purchasers: also other real estate will then and there be sold, embracing most desirable houses and lots in said city and including a new and commodious brick store house and lot. See card published, and address Williamsburgh, Va. R. H. ARMISTEAD,

Aug. 1—3t. Executor and Com.

NEW AND VALUABLE PLANTS,

For the Green-House, Nursery, Garden, and Pleasure Grounds.

B. M. WATSON, Old Colony Nurseries, Plymouth, Mass., offers for sale a very complete assortment of plants, including all those of recent introduction. Carriage of all Packages paid to Boston.

Dwarf and Standard Fruit Trees of the best sorts, very thrifty and well grown, and every sort of *Stocks for Fruit Trees*, at the lowest rates.

Currants, Gooseberries and Raspberries, in great variety.

Strawberries—Burr's New Pine, Richardson's Late, Early and Cambridge, Black Prince, Jenney's Seedling, Fay's Seedling, British Queen, Lord Spencer, Swainstone, Boston Pine, Hovey's Seedling, Burr's Columbus, Burr's Rival Hudson, Ellwanger & Barry's Genesee, Monroe, Climax and Orange Prolific, Keen's Seedling, Deptford Pine, Wiley's Seedling, Iowa, Methven Scarlet, Hudson, Crimson Cone, Prince's Scarlet, Unique, White Bush Alpine, Duke of Kent, Aberdeen Beehive, Large Early Scarlet, Bishop's Seedling, Old Pine, Buist's Prize, Prolific Hautbois, Dundee, Myatt's Princess Alice Maud, and Myatt's Prolific, at low rates.

English Walnuts, Spanish Chestnuts, Filberts, Medlars, Quinces, Mulberres, Figs, Grapes, &c. Diana Grape, $1.

Seedling Rhubarb, from Early Scarlet, Myatt's Victoria, Tobolsk and Giant, $3 to $10 per 100.

Ornamental Trees, including many new and curious species and varieties of Azalea, Æsculus, Ash, Beech, Birch, Cherry, Chestnut, Elm, Hawthorn, Laburnum, Linden, Magnolia, Maple, Oak, Plane, Willow, and other genera. A few hundred of the English Oak, (a fine tree, bearing immense acorns,) from 6 to 12 feet and finely grown. A few hundred extra fine European Mountain Ash, 9 feet. Also all the new and rare Conifers.

Young Trees, from 4 to 5 feet high, in great variety, from $3 to $12 per 100, of the finest varieties for Nurseries or Young Plantations.

Ornamental Shrubs, including among other new and fine sorts, Weigela rosea, Forsythia viridissima, Lonicera Ledebourii, Ribes Beatoni, Ribes sanguineum flore pleno, Ribes æbidum, Ribes atrosanguineum—*Spireas*, prunifolia, Lindleyana, Douglassi, and Reevesii, Mahonia aquifolia—*Lilacs*, Enodi, Sangeana, Valetteana, Chinense, grandiflora, Chas. 10th, Josikea, and others, Cydonia sinensis.

Hardy Vines and Climbers. Ivy, Wistaria sinensis and speciosa, Periploca graca—*Clematis glauca*, azurea grandiflora, bicolor, pedicellata, flammula, montana, nepalensis, odorata—*Lonicera*, Magnevilli, flexuosa, japonica, etrusca, italica, coccinea, Virginia Creeper, White Jasmine, Climbing roses.

Calystegia Pubescens. This new and beautiful climber, recently introduced from China, by Mr. Fortune, proves perfectly hardy in New-England, having stood in the grounds here two winters, without any protection whatever. Trained to a single pillar, say 10 feet in height, it is a very striking and beautiful object through the summer months, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental, planted like the Verbenas, in patches, and is very effective in young plantations, trailing prettily on the surface, and running among the lower branches of the trees in a very picturesque manner. It is particularly suited for Cemeteries and Public Gardens. Plants in pots, $3 per dozen,—Tubers for 100 plants, $3. Sent by Mail or Express at any season, with direction.

Climbers for the Border or Green-House. Passiflora fragrans, Maurandia alba, rosea and Barclayana, Thumbergia grandiflora, Manettia glabra, Lophospermum spectabile Ipomea Learii, and ficifolia Physianthes albus.

New Verbenas, imported this season. Heroine, Madame Clovet, Adile, Sir Seymour Blanc, Morpheus, Talleyrand, Lady of the Lake, Malvina, Rubicon, Favorite, Eclipse, Clotilde, Phæton, Madame de Gourney, Beauty of Rye, Arcadine, Sunset, Souvenir, Captivation, Snowflake, Wonderful, Phydias, Paul and Virginia, Royal Purple, Striped Eclipse, Graciosa, Gen. Brea, White Perfection, $3 per doz. Also, all the best of previous years, at $1.50 per dozen—as Reine du Jour, Iphigenie, St. Margaret, Defiance, Boule de feu, &c. &c. The new Verbenas are very superior flowers, and are quite different in style to the older sorts.

New Fuchsias. Spectabilis, Serratifolia, Acteon, The Rajah, Nymph, Purity, Perfection, Dr. Jephson, Eliza Miellez, White Perfection, Newberry's Delicate, Gen. Negrier, Dodd's Magnificent, Sir Henry Pottinger, Lord Nelson, Beauty of Leeds, Yorkshire Eclipse, President Porcher, Elegantissima, Beauty of Salisbury, One in the Ring, Cleopatra, Gaylad, flavescens, Goliath, Acantha, Napoleon, Mrs. Milbank, Chauvierii, Chateaubriand, Sir John Falstaff, Striata, $5 per dozen. The collection of Fuchsias is very fine, and contains all the really valuable varieties.

New Chrysanthemums. Aydee, Brez, Boisgerard, Matricarioides, Bianca, Daphne, Lutescens, Charlemagne, Malvina, Calebasse, Snowflake, Brinda, Orion, Temple de Solomon, Celestial, Napoleon, Narcisse, Gen. Mercier, &c., 30 varieties, at $2 per dozen. Cloth of Gold, Lady Tulford, Reine d'Or, 50 cents each.

New Cinerarias. Cerito, Nymph, Resplendens, Adile, Villiers, Edmondiana, Apollo, Beauty of Flushing, Climax, Beauty of Newington, Joan of Arc, $4 per dozen.

New Petunias. Eclipse, Prince of Wales, Enchantress, Beauty of Stow, North London, Madonna, $4 per dozen. Older sorts, as Alice Peel, Yorkville Beauty, Beauty Parfait, Grandiflora superba, &c., $2.50 per dozen.

Cape Bulbs, &c. *Ixia* maculata, Sessleyi, Pheasant's Eye, croscata, polystachya rosea—*Iris* pavonia, hybrida, crateroides, alba, longifolia, viridis, columniaris, fusca flava—*Oxalis* speciosa, Bowei, bifurctata, versicolor, nivea—*Lachenalia* tricolor, and others—*Hernanthes*—pubescens—*Gladiolus* pudibundus, formosissimus, &c., at $3 per dozens, in pots.

Roses. The best Tea, China, Noisette, Bourbon, Hybrid Perpetual and Climbing Roses, from $3 to $5 per dozen. Fortune's 5 Colored Rose, (new,) $1.00. Fortune's new double Yellow Climbing Rose, $1.

Prairie Roses, in 16 superb varieties, at $1 per dozen sorts—Cestrum aurantiacum, a superb plant for the border or the Green-house, 50 cents—Adamia versicolor, 50 cents—Abutilon Bedfordianum, 50 cents—Luci da rosea Geranium, 50 cents—Heliotrope Voltairianum and Souvenir de Leige, 25 cents—Habrothamnus corymbosus, 50 cents—Lobelia fulgens insignis, 50 cents—Plumbago Larpentæ, 37 cents—Veronica Andersonii, 50 cents—Veronica Lindleyana, 25 cents—Salvia splendens major, 25 cents—Maurandia alba, 25 cents—Lauschneria Californica, 25 cents—Tetratheca verticillata, 75 cents—Torrenia concolor, 37 cents.

Camellias, Heaths. Azaleas, Cactus, Salvias, &c., of the most desirable sorts, for the Parlor or Green-house.

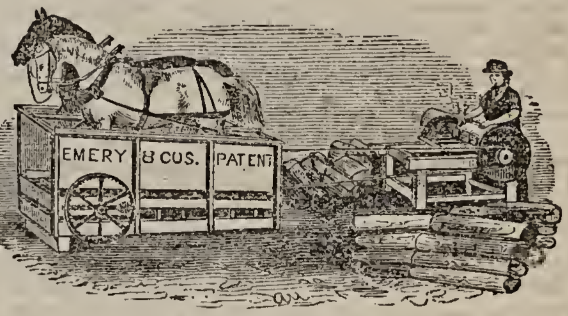
Herbaceous Plants, Pinks, Carnations, Phloxes, Forget-me-not, Lily of the Valley, White Lillies, &c., at low rates.

A Priced Catalogue for this autumn is now ready, and will be sent post-paid, on application.

B. M. W. offers his service in laying out and planting the grounds of Country Residences, Public Gardens and Cemeteries, in any part of the country. In this climate, where the spring is so short, if considerable planting is required, the work should be commenced in the autumn. Every description of plants can be furnished, grown under his immediate supervision, including all the novelties, at the lowest rates. Oct. 1, 1851—1t.

Prince's Linnæan Botanic Garden and Nurseries.

WM. R. PRINCE & CO., Flushing Long Island, offer their select and unrivalled Collection of Fruit and Ornamental Trees, Shrubbery, Bulbous and other Flowering Plants, and Green-house Plants. The stock of Standard and Dwarf Pears, and of all other Fruit Trees, is very large. 100,000 Evergreen Trees, comprising every variety. 25,000 Roses, of the choicest Daily, Perpetual, and Moss varieties. 100 splendid varieties of Pœonies, 10,000 Grapevines of the finest kinds, and all the new and superior Strawberries. Descriptive Catalogues, *with reduced prices*, will be sent to post-paid applicants. Oct. 1—2t.



EMERY & CO.'S

New-York State Society's First Premium

RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of the materials and wormanship; we have now so extended our facilities as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats, per day.

The price for Emery & Co.'s one Horse Power,...	$85.00	
do do Threshers and Separator,.	35.00	
do Bands, wrench, oiler and extra pieces,....	5.00	—$120.00
do Two Horse Power,.	110.00	
do do Thresher and Separator,......	35.00	
do Bands, oiler, wrench, &c.,..............	5.00	—$150.00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,......		$75.00
do Saw Mill, complete for use,...............		35.00
Price of Grant's Fan Mills, adapted for hand or power from,.................................		$22.00 to 28.00

Also Wheeler's Rack and Pinion Power, manufactured by ourselves.

One Horse Power,..............................	$75.00
Two Horse Power,....................................	100 00

All the above are subject to the warranty of three months use and trial, and if not satisfactory may be returned and full purchase money refunded.

Individuals wishing EMERY & Co.'s Latest Improved Premium Horse Power, will be careful to observe that their name is cast in full on every link of chain and the wheel hub.

For further particulars see illustrated Catalogue, furnished gratis on application to EMERY & CO

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, Nos. 369 and 371 Broadway, Albany, New-York.

The proprietors will exhibit their machines at the Ohio and Michigan State Fairs, to be held at Columbus and Detroit, this fall, and be prepared to take and fill orders.

AGRICULTURAL IMPLEMENTS.

G. W. Girty.] **Girty & Elliott, Cleveland,** [F. R. Elliott.

KEEP constantly on hand and for sale, the largest collection of Agricultural Implements in the Western States. Every new pattern and improved implement is obtained and offered for sale as soon as manufactured. Farmers need have no occasion to send East for we can furnish everything desirable that is contained in any Eastern collection. Cleveland O., Sept. 1—2t.

FOR SALE.

FULL Blood Shanghae Fowls, from a stock imported in the ship Canada, direct from Shanghae in February last. All orders promptly executed.

WM. BULL,
Sept 1—2t.* Plymouth, Ct.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular-wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

TO FRUIT GROWERS.

FOR SALE by the subscriber, an extensive assortment of the best varieties of the Pear, Apple, Plum, Cherry and other Fruit Trees; also Ornamental Trees, Shrubs, Evergreens, &c. &c.

Tulips in upwards of 200 choice varieties. 50,000 Buckthorn plants for hedges, one, two, and three years from the seed.

Pear trees in a bearing state, and extra sized fruit trees, always for sale. Purchasers are invited to call and make their own selection.

Sept. 1—2t. SAMUEL WALKER, Roxbury, Mass.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Apple Trees for Orchards,

For sale at the Nursery of J. J. THOMAS, Macedon, N. Y.

MANY thousand trees of large size, (mostly 7 to 9 feet,) and of handsome and thrifty growth, *including the best standard sorts, and the best new varieties,* and

All Propagated from Bearing or Proved Trees,

are offered for sale the present autumn, at *Fifteen Dollars per hundred,* or sixteen dollars if securely packed in wet moss and bound in strong mats, and delivered at canal or railway. The best selection of sorts will be made by the proprietor, in all cases where purchasers desire.

Also, an excellent assortment of proved and genuine Peach, Cherry, Plum, Pear, and Apricot Trees, Raspberries, Strawberries, &c., add a carefully selected collection of the finest Ornamental Trees, Shrubs, Hardy Roses, and Herbaceous Perennial plants.

All orders, accompanied with remittances, and directed Macedon, Wayne co., N. Y., will be carefully and promptly attended to.

Sept. 1—2t.

New Staminate Strawberry.

WALKER'S SEEDLING.

THIS new variety of the Strawberry is for sale and will be sent out, to applicants in the spring of 1852, price one dollar per dozen. Orders may be addressed to Samuel Walker, Roxbury, or to Mr. Azell Bowditch, at the Massachusetts Horticultural Seed Store, School Street, Boston.

The Fruit Committee of the Massachusetts Horticultural Society, report of the variety as follows:—"Walker's Seedling;" this strawberry has now been fruited three years; it is a dark colored berry, of good size, a very abundant bearer, of high flavor, very fine quality, and it will be, it is believed an acquisition. It is a staminate, worthy, as the committee think, of an extended cultivation. *Boston, June 28th,* 1851.

Fruit, Ornamental and Evergreen trees, shrubs, &c., for sale at the nurseries of SAMUEL WALKER,
Sept. 1—6t. Roxbury, Mass.

PREMIUM STRAWBERRIES.

WM. R. PRINCE & CO., Linnæan Botanic Garden and Nursery, Flushing, near New-York.

THE following varieties, and others, at reduced rates, by the dozen or hundred, and Descriptive Catalogues sent to all post-paid applicants.

Charlotte, Crimson Pine, Primate, Profuse Scarlet, Primordian, Hovey's Seedling, Burr's New Pine, Iowa, Crimson Cone, Black Prince, Taylor's Seedling, Prolific Swainstone, Lizzie Randolph, Eustatia, Montevideo Pine, Brilliant, Cornucopia, Le Baron, Refulgent, Theresa, Unique Scarlet, Unique Prairie, Old Early Scarlet, Serena, and the Alpine varieties. W. R. PRINCE & CO.

Sept. 1851—2t.

Fruit and Ornamental Trees, at Cleveland, Ohio.

GIRTY & ELLIOTT.

THE collection of trees offered for sale by us this fall, has been selected and grown with great care. It embraces a large variety, including all the best varieties of Fruits; as well as all the *new* Shrubs, Roses, Evergreens, &c., &c., that have been brought into notice for a few years past.

Standard Pears of one, two and three years growth.
Dwarf do do do do do
Standard Apples, do do do do
Dwarf do do do do do
Standard Cherries, do do do do
Dwarf do do do do do

Plums, Apricots, Nectarines, Peaches, Grapes, Currants, Raspberries, Strawberries, Gooseberries, &c., &c.

EVERGREENS,

Of Norway Spruce, Deodar Cedar, Cedar of Lebanon, Tree Box, English Yew, Auricarian Pines, and Balsam Firs. Our stock is very good, and among them many of extra large size. All the new Pines, Spruces, etc., etc., are on hand, and for sale, of common sizes.

15,000 Balsam Firs, small—20,000 American Arbor Vitæ, small—1,500 yards Dwarf Box, for Border Edgings, very fine and thick.

Hardy Azaleas, Rhododendrons, Kalmias, &c.

ROSES.

A very large collection of Roses, and nearly all grown on their own roots, comprising the best selections of Remontants, Bourbons, Chinas, Teas, Moss, and climbing varieties.

Green-house plants in variety, and at low prices. Catalogues will be issued, ready for delivery, on the 1st of September, and forwarded gratis to post-paid applicants. GIRTY & ELLIOTT.

Sept. 1—3t.

Superior Cultivated Bell Cranberry Plants.

THIS new variety of the Cranberry, grown and cultivated upon ordinary upland, is intended expressly for garden and field culture, being extremely hardy, vigorous and productive well suited to almost any soil and location.

The vines can be sent to any part of the United States in the root, carefully packed in boxes at $7 per thousand or can be furnished growing in ornamental pots forming a beautiful ornament for the window, garden, or Greenhouse. Price $2 per pot.

Persons wishing for plants should order previous to the first of October next. Full printed directions accompany the plants.

Circulars giving full information, or specimen plants sent gratis, to all post paid applicants. Address F. B. FANCHER, Gen. Agent.,
Sept. 1—2t.* Horticulturist, Lansingburgh, New-York.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,
Aug. 1—tf. No. 197 Water street, New-York.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton, Mass.,* to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square, Boston,* will be promptly executed.

Reference to Mr. J. Van Dusen, of Cincinnati, Ohio, who will take orders for Fowls, as advertised above.

Boston, Aug. 1, 1851—12t.

Patent Wheel Cultivator,

ONE of the most useful implements on the grain farm for summer fallowing, preparing grain land, and putting in grain; price with 9 teeth, $30.

PATENT GRAIN DRILLS—of the most approved constru
for 7 to 11 teeth—prices, from $50 to $100. EMERY &

SEED WHEATS.

GOLDEN Australian, White Soules, Beaver Dam, White Flint, White Chaff Bearded and Mediterranean Seed Wheat, selected with care from fields where but the one variety was grown. For sale by GIRTY & ELLIOTT,

Sept. 1—2t. Cleveland, Ohio.

Highland Nurseries, Newburgh, N. Y.

A. SAUL & CO. have the pleasure to announce to their *patrons* and the *public in general*, that their stock of

FRUIT AND ORNAMENTAL TREES, SHRUBS, &c.,

which they offer for sale the coming autumn, is of the *very best* quality; and embraces everything in their line that can be procured in the trade.

Dealers and planters of trees *on a large scale*, will be treated with on as liberal terms, as can be done by any establishment of reputation in the country; they flatter themselves that for correctness of nomenclature of fruits, (which is a serious consideration to planters) that their stock is as nearly perfect as can be, having all been propagated on their own grounds, *from undoubted sources*, under the personal supervision of Mr. Saul.

They have propagated in large quantities, *all the leading and standard varieties*, which *are proved* to be best adapted for general cultivation, especially those recommended by the American Pomological Congress, at its several sessions, as well as all *novelties*, and certain kinds particularly suited to certain sections and localities of the Union, and the Canadas.

Their stock of Pear trees is the largest they have ever had to offer for sale, and among the largest in the country, and consists of over 50,000 saleable trees.

The stock of Apple trees is also very large, as well as Plums, Cherries, Apricots, Peaches, Nectarines, and Quinces, also Grape-vines, Gooseberry, Currant, Raspberry, and Strawberry plants in great variety, &c. &c.

Also Pears on Quince, Cherry on Mahaleb and Apple on Paradise stocks, for pyramids and dwarfs for garden culture, and of which there is a choice assortment of the kinds that succeed best on those stocks.

Deciduous and Evergreen Ornamental Trees and Shrubs.

100,000 Deciduous and Evergreen Ornamental Trees, embracing all the well known kinds suitable for street planting, of *extra size;* such as Sugar and Silver Maple, Chinese Ailanthus, Horse Chestnut, Catalpa, European and American Ash, Upright lentiscus leaved Ash, Upright gold barked Ash, Flowering Ash, Three Thorned Acacia, Kentucky Coffee, Silver Abele Tree, American and European Basswood or Linden, American and European Elm in several varieties, &c. Also all the more rare and select, as well as well known kinds suitable for Arboretums, Lawn and door-yard planting, &c.; such as Deodar and Lebanon Cedars; Auracaria or Chilian Pine; Cryptomeria japonica; the different varieties of Pines, Firs, Spruces, Yews, Arborviteas, &c.

WEEPING TREES.—New Weeping Ash, (Fraxinus lentiscifolia pendula,) the old Weeping Ash, gold barked Weeping Ash, Weeping Japanese Sophora, Weeping Elms (of sorts,) Umbrella Headed Locust, Weeping Mountain Ash, Weeping Willow, Large Weeping Cherry, Weeping Birch, Weeping Beech, &c. &c.; together with every variety of rare Maple, Native and Foreign; Flowering Peach, Almond and Cherry; Chestnuts, Spanish and American; Purple and Copper Beech; Judas Tree, Larch, Gum Tree, Tulip Tree, Osage Orange, Paulownia, Mountain Ash, (American and European,) Magnolias of sorts, with many other things—including some 200 varieties of Shrubs, Vines, Climbing and Garden Roses in great variety; such as Hybrid Perpetuals or Remoutants, Hybrid China, Hybrid Bourbon, Hybrid Damask, Hybrid Provence, Bourbon, Tea, China, Noisette and Prairie Roses; also Herbaceous plants in great variety, &c. &c., for which see Catalogue, a new edition of which is just issued, and will be forwarded to all post-paid applicants.

A large quantity of Arborvitæ for Screens, and Buckthorn and Osage for Hedge plants.

Newburgh, Sept. 1, 1851—2t.

To Farmers, Gardeners and Nurserymen.

THE Lodi Manufacturing Co. offer for sale a freshly prepared article of Poudrette for fall use. It will be found a cheap, handy and lasting manure upon grass preceded by wheat or rye, also upon turneps, celery, &c. It has been found of great use upon lawns as a top dressing, and grass lands generally. It has also received great commendation for its efficacy upon trees and shrubs, particularly Evergreens and ornamental trees. Reference is made to A. J. Downing, Esq., B. M. Watson, Plymouth, J. M. Thorburn & Co. and others —also to the following letter:

Extract from a Letter of Hon. Daniel Webster, dated

WASHINGTON, March 19, 1850.

"If I neglect the annual purchase of some of this article, my gardener is sure to remind me of it. He thinks it almost indispensable, within his garden fence; but there are uses, outside the garden, for which it is highly valuable, and cheaper, I think, than any other manure, at your prices. A principal one, is the enrichment of lawns and pleasure grounds, in grass, where the object is to produce a fresh and vigorous growth in the spring. Our practice is to apply it when we go to town in the autumn, and we have never failed to see its effects in the Spring."

Price of Poudrette $1.50 per bbl. for any number over six barrels —and of Pondrette for *shrubs*, $2.00 per bbl. for any quantity—in both cases *delivered* free of cartage on board of vessel in New-York.

☞ Five shares of stock for sale in the Lodi Manufacturing Co. Dividend payable in Poudrette. Apply to the LODI MANUFACTURING COMPANY, 74 Cortlandt st., New-York.

Sept. 1—2t.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, PROFESSOR OF SCIENTIFIC AGRICULTURE.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. JOHN P. NORTON, New-Haven, Conn. June 1, 1851—8t.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are nowprepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot	in length,	per thousand,	$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

DRAIN TILE WORKS, ALBANY.

60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

FARM FOR SALE.

THE subscribers offer for sale the farm, late the property of, and now occupied by Mr. Charles Van Eps, in the town of New-Scotland, Albany county. The farm is located about three-fourths of a mile southerly from the New-Scotland Church, and about seven miles from the city of Albany, by a good road. It contains one hundred acres of land, of the very best quality for grass or dairy purposes. It is a good grain farm, but is peculiarly adapted to grass. It lies well and handsomely, as to exposure, roads, water, &c. It is all in a state of cultivation except a few acres of wood necessary for the farm; there is not three acres of waste land on it. The house is commodious and comfortable. The other buildings and fences are not as good as the farm would warrant, but are sufficient in number and size, and in tolerable repair. The premises will be sold in fee—free from quit or rent. Title good and terms easy. For further particulars, address either of the subscribers.

J. D. DEGRAFF, Fonda,
D. C. SMITH, Schenectady.

August 1—3t Executors of John J. Degraff, deceased.

Contents of this Number.

Insects injurious to the Wheat crop, by Dr. Asa Fitch,...... 321
Agricultural Resources of Ohio, by. W. G. Edmundson,.... 324
American Reaping Machines in England, by B. P. Johnson,. 327
Answers to Inquiries—New Publications,.................. 329
Notes of a Tour in Europe, by W. R. Sanford,........... . 330
Comparative Analyses of Soils, by Prof Norton,........... 332
The Culture and Management of Fruit Trees,................ 333
Stocks for Pears—Grafting Roses,........................... 334
Rot in Potatoes, &c—Large Crops of Indian Corn,.......... 335
New-York State Fair at Rochester,.......................... 336
Wheeler's Combined Thresher and Winnower—Harvesting Indian Corn, by Oliver Moore,.......................... 338
Comparative Value of Carrots—Agriculture and Horticulture of Greene County, by A. Marks,.......................... 339
Chess will not turn to Wheat, by S. Leonard—Crops in Seneca County, &c., by J. Johnston,......................... 340
Advantages of Drainage—Flax Cotton and Linen,........... 311
French vs. American Merinos, by A Subscriber—Advantages of Paring and Burning Soils—Excursion to Paris, by B. P. Johnson,.. 342
University of Albany—Department of Scientific Agriculture, 344
Notes for the Month—To Correspondents, &c.,.............. 346

ILLUSTRATIONS.

Pruning Fruit Trees,.................................. 331
Wheeler's Thresher and Winnower,.................. 338

NOW READY.

PARSONS & CO.'S Catalogue of *Roses* and *Exotic Plants*, for sale the ensuing autumn and spring, comprising the new genera and species recently introduced from Europe, and now sent out for the first time. The Catalogue of Fruit and Ornamental Trees, hardy Shrubs, Vines, &c., including all the new and rare Pines and other coniferæ, with various new trees and shrubs, selected by one of the Proprietors in Europe, will be ready about the 15th inst.

They will both be sent gratis to all applicants who prepay and enclose a postage stamp. Address PARSONS & CO.,
Oct. 1.—1t. Flushing, near New-York.

Rochester Commercial Nursery,

Established 1830.

THE attention of the public is invited to our large stock of fruit and ornamental trees, shrubs, green-house plants, &c., &c., all of which have been carefully cultivated and are warranted correctly named.

Particular attention has been paid to the propagation of the very best standard fruits, and we are confident that we can fill any orders for these, however large.

We do not boast of the size of our Catalogue, but of the number and beauty of our trees.

An extra quantity of cherry seedlings on hand, of one year's growth. BISSELL & HOOKER,
Oct. 1—2t. Rochester, N. Y.

Fruit and Ornamental Trees.

THE subscribers would beg leave to give notice to dealers and others purchasing Pear Trees, that their stock is remarkably well grown this season, and will be very strong and fine for the fall sales, and is as extensive a collection of saleable trees as can be found at any other nursery in the country. The collection grown on Quince stock is also very fine.

The stock of Apple Trees will also be very large this fall, in lots to suit purchasers.

Plums.—A general assortment of the most leading kinds.

Cherries, Apricots, Peaches, Grape-vines, Gooseberries, Currants, with other small Fruits, at the lowest market prices.

Ornamental Trees, being also grown extensively, can be furnished by the hundred at very reasonable rates—European Linden, Mountain Ash, Scotch Elms, English Elms, Horse Chestnuts; with a good collection of Roses, &c. Catalogues will be forwarded to all applicants. WILSON, THORBURN & TELLER, Nurserymen, 492 Broadway, Albany. Oct. 1—1t.

Dana's Muck Manual.

JUST published, by Jas. P. Walker, Lowell, Mass., a new, revised, and greatly enlarged edition of the Muck Manual for Farmers, by Dr. Samuel L. Dana. The increased size of the work, (345 pages,) compels the publishers to put the price at 37 cts. in paper, (and not 75, as advertised a few weeks since,) and $1.00 in neat cloth. For sale in Albany, by Messrs. E. H. Pease & Co.; in New-York, by Mr. C. M. Saxton. Oct. 1—3t.

A very Desirable Farm for Sale.

I Offer to sell my farm of 230 acres, situated four miles south of the village of Oxford, Chenango county, N. Y., and near the river and canal. 250 acres of it are under high cultivation, and well and durably watered. The remainder is well timbered. The fences are chiefly stone, and in good repair. It has a large two story mansion, five large barns and sheds, in good repair. It is admirably adapted for a dairy, or for grazing and grain—and has a fine orchard of grafted fruit The farm, for profit, health, and beauty of scenery, cannot be surpassed. It is fully supplied with farming tools and stock, and 130 tons of hay, all or either of which may be had with the farm. The farm can be conveniently divided. The title is perfect, price low, and terms easy. Apply to G. VANDERLYN,
Oct. 1—2t. Oxford.

FARM FOR SALE.

ONE of the best grazing farms in Chautauque county for sale, at $18 an acre. It contains about 220 acres, about 120 acres of which is under a good state of cultivation. The buildings and fences are good, and there is on it a good orchard of grafted fruit. A part of the purchase money can remain under a bond and mortgage for a term of years if desired. The title is perfect. For information inquire of JOHN D. PATTERSON,
Oct. 1—2t.* Westfield, Chautauque co., New-York.

New-York Importers and Jobbers.

FREEMAN, HODGES & CO.,

58 *Liberty street, between Broadway and Nassau-street, near the Post-Office, New-York.*

WE are receiving, by daily arrivals from Europe, our Fall and Winter assortment of rich fashionable fancy silk and millinery goods.

We respectfully invite all cash purchasers thoroughly to examine our Stock and Prices, and, as interest governs, we feel confident our Goods and Prices will induce them to select from our establishment. Particular attention is devoted to Millinery Goods, and many of the articles are manufactured expressly to our order, and cannot be surpassed in beauty, style and cheapness.

Beautiful Paris ribbons, for Hat, Cap, Neck, and Belt.
Satin and Taffeta ribbons, of all widths and colors.
Silks, Satins, Velvets, and uncut velvets, for Hats.
Feathers, American and French artificial flowers.
Puffings, and Cap trimmings.
Dress Trimmings, large assortment.
Embroideries, Capes, Collars, Undersleeves and Cuffs.
Fine embroidered reviere and hemstitch cambric handkerchiefs.
Crapes, Lisses, Tarletons. Illusion and cap laces.
Valenciennes, Brussels, Thread, Silk, and Lisle thread Laces.
Kid, Silk, Sewing Silk, Lisle thread, Merino Gloves and Mitts.
Figured and plain Swiss, Book, Bishop Lawn and Jaconet Muslins.
English, French, American and Italian Straw Goods.
Oct. 1, 1851—2t.*

THE FRUIT GARDEN,

A TREATISE intended to illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, &c.; the laying out and arranging different kinds of Orchards and Gardens; the selection of suitable varieties for different purposes and localities; gathering and Preserving Fruits: Treatment of Disease; Destruction of Insects; description and uses of Implements, &c. Illustrated with upwards of 150 figures, representing different parts of Trees, all practical operations, forms of trees, Designs for Plantations, Implements, &c. By P. Barry, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

"This book *supplies* a place in fruit culture, and that is saying a great deal, while we have the popular works of Downing, Thomas and Cole. Mr. Barry has then a field to himself, which he occupies with decided skill and ability."—*Prairie Farmer.*

"It is full of directions as to the management of trees and buds and fruit, and is a valuable and pleasant book."—*Albany Eve. Journal.*

"The work ought to be in every family in the United States."—*Ashtabula Sentinel.*

"The work is prepared with great judgment and founded on the practical experience of the author—is of far greater value to the cultivator than most of the compilations on the subject."—N. Y. *Tribune.*

"It is one of the most thorough works of the kind we have ever seen, dealing in particulars as well as generalities, and imparting many valuable hints relative to soil, manures, pruning and transplanting."—*Boston Gazette.*

"A mass of useful information is collected, which will give the work a value even to those who possess the best works on the cultivation of fruit yet published."—*Evening Post.*

"His work is one of the completest, and, as we have every reason for believing, most accurate to be obtained on the subject."—*N. Y. Evangelist.*

"A concise manual of the kind here presented has long been wanted, and we will venture to say that, should this volume be carefully studied and acted upon by our industrious farmers, the quantity of fruit in the State would be doubled in five years, and the quality too greatly improved. Here may be found advice suited to all emergencies, and the gentleman farmer may find directions for the simplest matters, as well as those which trouble older heads—the book will be found invaluable."—*Newark Daily Advertiser.*

This book can be sent by mail to any part of the United States. Just published by CHARLES SCRIBNER,
Oct. 1—3t. 145 Nassau st., New-York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be paid in advance.

Advertisements.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

J. P. Norton

NEW SERIES. ALBANY, NOVEMBER, 1851. VOL. VIII.—No. 11.

Agricultural Schools.

An Institution for practical agricultural education is becoming more a desideratum every year. Before the soil had suffered from continual draughts upon its productiveness, its fertility gave the farmer no reason to doubt that its resources were inexhaustible; but when his crops, with the same cultivation, are lessened season by season, he asks for a remedy for this evil. That experience alone, in the same beaten track, will produce any higher result, is an idea which the many worn-out farms disproves sufficiently. There must be "an instauration from the very beginning"—a right commencement, and a proper and continued attention to preserving the heart and vitality of the soil, if its worth is to be retained, not only unimpaired by culture, but always improving. There are facts connected with tilling the soil, which the day-laborer could never discover, or at best, only after a succession of repeated failures, which in all probability would have made the richest lands almost a desert, and the experimenter too old to reap much reward for his exertion. It is urged, on the other hand, and with some force, that the laboratory of the chemist is not the place to acquire valuable information on practical agriculture,—that farmers are dependant on the labor of their hands for their support, and have not the means to devote the flower of their youth to scientific study. It is said that nature is the only proper laboratory for the sons of the soil, and the sun, rain and virgin earth, all the needful chemical agents.

That objections like these are not well founded, and can have but little weight, must be evident on reflection. Soils do deteriorate, crops decrease, fruit trees become diseased or die through utter neglect, and the staple products of farms suffer from blight, or other unknown causes. The investigations of inquiring scholars have already thrown much light on these subjects, and agricultural papers have done what they could to keep the public informed, and to promote further reseach. Yet there is something wanting, and that seems to be a means of imparting just the information needed, and that so explained and brought down to common apprehension, that the intelligent culturist can make farther and certain progress. To supply this want, efforts have been made from year to year to induce the legislature to endow an Agricultural College in connection with a model farm, but without success. Many think the time has not yet come when such an institution can be made successful, without greater expense and risk than the demand will warrant.

It has long been our opinion, that the true interests of agricultural education would be best promoted by the establishment of an institution like the one proposed by Prof. NORTON, under the auspices of the University of Albany, the prospectus of which was given in our last No. It does not propose to make an adept chemist, mineralogist, or geologist of the student; but simply, by a course of lectures, adapted to the sphere of the farmer's observation, to acquaint him with the general principles of the composition of soils, the best methods of fertilizand invorating them, the theory of rotation in crops, and the general improvement of plants and animals. The advantages of such a course of lectures are ably set forth in the circular, and the value of the knowledge that can be obtained by instruction thus communicated—by the mutual sharpening of mind with mind, and the influences that cluster around an institution where combined effort for a given end is being made, cannot well be estimated.

To those who have been readers of the Cultivator, we need not speak of the ability of Prof. NORTON, his clear views on all practical as well as scientific subjects, and his capacity to impart valuable instruction. Among profoundly learned scholars in his department, he holds an eminent rank, and his knowledge is of that available sort which adapts itself to the popular demand.

We hope the friends of agricultural education throughout the state will aid this effort. Provision has been made by the Trustees of the University for the gratuitous attendance of two young men from each Senatorial district in the state, upon the course of lectures the ensuing winter; and those who feel an interest in this subject should see that this liberal offer is not lost to the community. We know of no way in which so much can be accomplished for the cause of agriculture, at so small an expense; and we cannot doubt that the return of a class of seventy-five or a hundred young farmers, from such a course of instruction, to their summer labors, in different parts of the state, would be the means of awakening an ardent desire in others to avail themselves of a like benefit, and secure without further effort, a full attendance in the future. Thus a sure foundation will be laid, upon which can be erected an institution which will supply our wants, without the possibily of a failure—will grow up with our growth, and strengthen with our strength. Neither public or private munificence will be withheld when the community become convinced that our farmers need its enlargement, and will avail themselves of its advantages. We do not see why this Institution need wait long to secure the confidence of the farming population, and acquire the reputation it will justly deserve. Let it receive prompt patronage, and it will not be long before its influence will be seen in improved farms and enlightened farmers.

◆

Analysis of the White Sugar Beet.

By J. H. Salisbury, M. D.

For the samples examined I am indebted to the kindness of S. G. Noyes, Esq., of Greenbush. They were very large, fleshy, and crisp. Average length of root, 18 inches. Average widest diameter, 4 inches.

Percentage of Water, Dry Matter, and Inorganic Matter.

	Root.
Percentage of water,	90. 55
do dry matter,	9. 45
do inorganic matter,	0.995
do do in dry matter,	10.534

The above results show this variety of beet to be highly charged with water, of which it contains 90.55 per cent; leaving of dry inorganic matter only 8.455 per cent, and of inorganic matter, 0.995 of one per cent. The fresh roots contain about one pound of inorganic matter to the hundred, the dry roots 10½ pounds. 10.050 lbs. of the fresh roots yield 100 lbs. of inorganic matter.

Composition of the inorganic matter of the roots.

Carbonic acid,	17.31
Silicic acid,	0.78
Phosphoric acid,	10.80
Phosphate of iron,	0.91
Lime,	1.85
Magnesia,	1.09
Potash,	13.42
Soda,	50.84
Chlorine,	0.78
Sulphuric acid,	1.76

The analysis shows the inorganic matter of this variety to be made up mostly of soda, potash, and phosphoric acid. Besides these three, it contains in small proportion, lime, magnesia, sulphuric acid, chlorine and iron. The analysis readily suggests the materials best suited for its inorganic nourishment.

Proximate organic composition of roots.

	100 parts of fresh roots.	100 parts of dry roots.
Water,	90.550	
Fiber,	2.295	24.039
Sugar,	5.730	60.023
Dextrine	0.440	4.608
Casein,	0.595	6.242
Albumen,	0.443	4.617
Starch,	trace.	trace.
Resin,	0.020	0.260
Gluten,	0.015	1.157
Oil,	0.010	0.105

In the above analysis we see the nutritive qualities of this variety of beet. One ton of the fresh root contains of sugar, 114½ lbs.; of dextrine, 9 lbs.; of albumen, casein and gluten, 21 lbs.

Ultimate organic composition.

100 parts of dry roots gave of

Nitrogen,	1.465
Carbon,	40.729
Oxygen,	41.511
Hydrogen,	6.529
Inorganic matter,	10.534

Albany, Oct., 1851.

◆

Deep Plowing, on some soils, improves them astonishingly. The Michigan Farmer says that Lewis Cone, the great wheat grower of Oakland county, in that state, commenced his system of deep plowing 15 years ago, since when his wheat crop has been more than doubled, taking one year with another, through the whole time.

Manure---Query.

Eds. Cultivator—It is a query amongst farmers in this neighborhood, (and probably elsewhere,) whether stable manure, hauled out and spread upon oat stubble, preparatory to sowing wheat, thus exposing it to the action of the sun and dew during a continued drouth, will lose much or any of its fertilizing properties. Some are of the opinion it will not, believing that the generation of ammonia is prevented by its being thus scattered, and therefore none of the active principle can be lost by evaporation. If any of your able correspondents can give any information upon the subject, tending to a satisfactory conclusion, it will be gladly received. John J. Moore. *Quakertown*, 8 *mo.* 11*th*, 1851.

The nitrogen of animal manure is converted into a carbonate of ammonia by fermentation. It is in this state both soluble and volatile. Therefore when manure containing ammonia is spread out, exposed to the direct action of the air, more or less loss would ensue. When guano is spread on the surface of dry ground, and left uncovered, it is in a great measure lost, unless rain enough soon falls to dissolve the ammonia and carry it into the soil. If the surface was hard, so that water would not soak into it, the ammonia, if brought into solution by rain, would be mostly washed off. This illustrates the effect which would take place with stable manures. If the manure should be spread before fermentation takes place, the loss of ammonia would undoubtedly be less, but that there would still be a loss of fertilizing properties, is at least probable. The solid excrement, which is dropped on pastures by horses and cattle, does comparatively but little good; it gradually wastes away under the effects of rain and evaporation, without producing very marked results on the herbage. The urine, however, which soaks at once into the soil, shows its effects in a striking manner. We would suggest to those who deny that manure can be wasted by evaporation, to try an experiment by placing 1,000 pounds in shallow troughs, or in a basin formed of rock. Here let it be exposed as much as possible to the alternate effects of rain and sunshine, thoroughly wet and dried as often as practicable—for a year or longer. Then let it be applied to any crop, under the same circumstances, with 1,000 pounds of the same kind and quality of manure, as that which had been exposed was at the beginning of the experiment, and compare the yield produced by each lot. Eds.

◆

Sheep Poisoned by Peach Leaves.—The poisonous quality of the leaves of the wild cherry has been long known, and cattle and sheep have frequently lost their lives by eating them. The substance which produces these effects, is supposed to be prussic acid. Peach leaves are known to contain this acid, and a writer in the *Wood-Grower* states that two sheep had died from eating freely of peach leaves. Various remedies have been given for the relief of animals which have eaten poisonous substances. In regard to sheep and cattle, we have formerly experienced good success from giving as soon as the illness of the animal is discovered, sweet-oil, lard, or butter, mixed with salt. For a sheep, a gill of oil, with a table-spoonful of fine salt, was the quantity given. A cow might have four times that quantity. It is very important that the dose be given as soon as the symptoms of poisoning are manifest; the longer it is delayed, the less likely it will be to afford relief.

Agriculture of Illinois and Iowa.---No. 1.

BY W. G. EDMUNDSON.

EDITORS CULTIVATOR—Probably no portion of the North American Continent, presents larger claims upon the attention of the friends of agricultural improvement, than the states and territories bordering on the upper Mississippi and her tributaries. The strong arm of science has, in rare instances only, been employed in the development of the unrivalled agricultural resources, with which this vast region abounds. No portion of the inhabited globe can boast of so great an extent of rich, fertile, alluvial soil; and the climate is sufficiently various to suit the tastes of those who admire a high degree of latitude, as well as those who may prefer the summer temperature of the tropics. The northern wheat belt of the Union is embraced within the lines of latitude constituting the upper Mississippi valley, and the period is not far distant when the cultivation of the cereal grains will become as extensive, and as profitable, as is now the case in Ohio. Like those who have preceded in their journeyings through this country, in search of agricultural knowledge, we have been in many important particulars doomed to disappointment. We expected to have found a country teeming with substantials and luxuries, such as abound in every country distinguished for its high state of civilization and refinement; and we took for granted that on the rich prairie soils at least, the squalid wretchedness, which frequently may be met with among the white laboring population of the south, would nowhere be seen on the fertile plains of the upper Mississippi. The masses of the rural population are not so comfortably clad, their houses and out-buildings are not so neat and commodious, their farms are not so well cultivated, and in an average of cases so productive, as may be found in the new settlements of a timbered district in Ohio or New-York. These conclusions have not been rashly formed; but have been forced upon our mind, greatly against our will, after having spent some six weeks among the farmers for the express purpose of obtaining a knowledge of their habits and customs, and especially an acquaintance with their systems of agriculture.

The people who have migrated to this country, are generally those of the laboring population of the oldest settled states of the Union, and also of the same class from Europe. They landed here with limited means, and many of them with large families, and generally settled along the borders of streams, contiguous to timber, where, in the process of acclimation, they became exposed to the malaria, so common in all rich alluvial countries. Uncomfortable dwellings; a coarse and somewhat unpalatable diet; deprivation of the common necessaries of life; and a thousand other inconveniences, that necessarily fall to the lot of a frontier people, have had the obvious tendency of blunting the finer feelings of those who had the hardihood to leave their happy homes, for the purpose of building up our western cities, towns and rural settlements. Thousands who came to this country at an early day, dreamed only of becoming wealthy and comfortable, by the extent of their landed operations. Fields less than a quarter section each, were considered too trifling for a prairie farmer; and corn, wheat, and other crops were cultivated on a large scale in the most slovenly manner. For a time, the yield continued to be abundant, and owing to the low prices of produce, and the great distance to which it had to be transported to market, the most slovenly systems of farming practiced in any country, found favor, even among many who, formerly, when doing business in the eastern states, were considered among the most enlightened cultivators of the soil in their respective neighborhoods. By these and other influences, farming, instead of taking a high rank, appears to have been gradually on the decline, and the hackneyed expression of *hard times* is more commonly heard in this country, than in any portion of the Union, through which we have traveled.

The foregoing is the dark side of the picture, and right glad would we have been, had it been in our power, to have blotted out of our remembrance, the strong and unfavorable impressions that on all sides forced themselves upon our mind, whilst critically examining the character and condition of the agriculture of the rich and fertile lands that universally abound on both sides of the upper Mississippi. Much, very much, however, can be said on the other side of the subject, which will greatly relieve the mind of the reader from any unfavorable impression that may have obtained credence through the somewhat startling facts enumerated in these prefatory remarks. Honorable exceptions to the general prevailing systems of agriculture are frequently to be met with, and occasionally whole settlements are to be found, where the inhabitants evince as much enterprize, and entertain as exalted notions of improvement, as in the most highly cultivated sections of New-York. Besides this, farming in these sections of country, affords as liberal a profit when conducted on rational principles, in proportion to the amount of labor and money expended, as in any portion of the Union. This is especially the case within the past five years, owing to the fact that the southern markets for all the leading staples, are quite as good and reliable as the northern markets, and besides a given amount of capital expended in agriculture will afford on a rich prairie soil, a much larger return than on the best farming lands of the eastern or northern states.

The impression has become pretty general in the oldest states, that the day has gone by when a profitable investment can be made in Illinois and Iowa, in the purchase of lands for agricultural purposes. A greater mistake than this could not possibly have been made, and the evidences on all sides are abundant, that yearly the chances for making handsome sums, by purchasing real estate for the purposes of practical farming, are and will be on the increase. The resources of the country bordering the whole of the Mississippi waters, are of such an extraordinary rich character, that having been once brought under favorable notice abroad, they cannot long remain undeveloped. The great thing most required in this charming region of country, is a liberal investment of capital and skill in the business of agriculture. Many false impressions have gone forth in regard to the capacity of this country; and not a few suppose that it is more severely afflicted with pestilential and contagious diseases, than the Atlantic states; and what may be the case with a few isolated places, is taken for granted to be general. In preparing some original papers on the agricultural and other resources of the west, we shall be influenced entirely by a strong desire of doing justice to all sections of the country, and whilst the bright side of the picture shall be constantly presented to the vivid notice of the readers of the Cultivator, we shall not fail to expose, in a becoming manner, any glaring defects that may come under our notice. Indeed, our object is not so much to criticise, as it is to place before the public an array of facts and deductions, based upon the enlightened practice of others, which shall have for their object the improved cultivation of the soil, and the elevation of the social and moral condition of the rural population.

The north-western states and territories afford an almost boundless field for the operations of a philanthropic mind; and, judging from what we have already seen, no portion of the Union so much requires the presence of a numerous and powerful band of men, devoted to the introduction of the practical sciences, in combination with the various branches of agriculture. In so great an enterprise, no single individual can do much; but finding that the country is dotted over with many intelligent farmers, who are anxiously endeavoring to sift the wheat from the chaff, by reading the mass of agricultural literature with which our country abounds, and by adopting a course of experiments based upon the most enlightened practice, we have reason to take courage, and have faith that every facility will be afforded, that could be desired, to enable us to bring into notice the present and probable future condition of the states and territories bordering on the upper Mississippi.

The manner of arranging our matter will be somewhat varied, to suit the exigencies of the case; but for the present, we shall content ourselves in discussing a few subjects under appropriate heads, in the hope that we shall be able to remove many false impressions that have obtained favor by those who have never personally investigated the matter. [illegible] Iowa

The Cultivation of Wheat.—For the past five years, the wheat crop has been a partial failure throughout the entire prairie country of the west. The causes producing this result, have been various, and in no two seasons of a similar character. The losses already from this source, have been such as to dispirit the wheat growing farmers, and many are now turning their attention to other branches of agriculture. The Hessian fly, the blight, the rust, and winter-killing, are the main agencies through which these unexpected losses have been brought about; and it is now thought questionable by many sensible farmers, whether a prairie country can be made profitable for the cultivation of winter wheat. No one doubts the capacity of the soil for the production of breadstuff, but the opinion is gaining favor that it is useless to attempt it on a large scale until some better plan of managing the crop is discovered, which will admit of general adoption. How far this opinion may be true, it will be our purpose to investigate, and in doing so, we shall be influenced by the single motive of affording as much information upon this difficult question, as our limited acquaintance with the country, and the prevailing system of agriculture practiced, will enable us to do.

Before suggesting any plan for the amelioration of the condition of the wheat growers of Illinois and Iowa, it would be well to first investigate the plans of culture that are ordinarily practiced, and then we shall be better understood when submitting our views for public criticism.

The recently broken prairie sod, is now thought the most certain preparation for a winter wheat crop. The sod is usually broken in June and July, and if the rot be perfect, it is plowed the second time, mostly lengthwise of the furrow, the last of August or in September, and sowed with wheat, at the rate of about six pecks per acre. By far the greater portion of the sod is only once plowed, and when it becomes well rotted, is harrowed with a heavy inplement, and sown in the early part of September, covering the seed with the harrow. Neither fine seed harrows, or drilling machines, can be used to advantage on recently broken prairie sod. The whole process, necessarily, has to be done in the roughest manner, and with but a trifling cost, yielding in an average of cases, from 10 to 15 bushels of marketable wheat per acre. As in Ohio, wheat frequently is made to follow in succession after a corn crop, and sometimes is sown among the standing corn, but generally is cut up and shocked in parallel rows across the field, leaving strips to be sown with a spring crop. The growth of weeds in a majority of cases, becomes so rank before the period of sowing the wheat, that the seed cannot be covered with anything like neatness, and to the mind of a tidy farmer, the whole process of sowing wheat after corn, cannot be viewed in a favorable light, and from the frequent failures from this source, has now but few advocates. Occasionally, naked summer fallows are attempted to be made, but with what success the reader may judge, when we state that stubble, or other land, is commonly broken up in June, and is then allowed to remain almost untouched, till the latter part of August, when it is again plowed for seed, in broad, flat lands, and the seed sown and harrowed in, without making water furrows for carrying off the redundancy that more or less remains in the surface in winter and spring months. By thus plowing the summer fallow only twice, and that too, not exceeding some four inches in depth, the ground becomes covered with a thick growth of weeds, ranging from two to four feet in height, which to an eastern farmer would at first sight appear to be an insuperable barrier against anything approaching a profitable course of farming.

The foregoing, and other practices of a similar character, are among the prevailing modes of farming that are tolerated in those regions of country where the alarm of hard times, and the failure of crops, are the most frequent. But it must not be taken for granted that no exceptions to these slovenly operations are to be met with. On the contrary, some of the finest specimens of farm management, are occasionally to be seen, as exist in any of the most celebrated wheat regions of the Union.

Those who have adopted the modern improvements in the cultivation and management of the wheat crop, have, aside from the contingencies always more or less attendant upon the success of this delicate crop, been richly rewarded for their trouble. Where deep plowing, and that, too, when practicable, in autmn, and the liberal cultivation of the clover plant, have been at all extensively practiced, the average product of wheat has been in almost every instance, remunerative. The cultivation of the soil, when done in a through manner, is found to be as productive in profits, in an average of cases, on a prairie soil, as on timbered land. But the great barrier to improvement in this, as well as other countries, may be traced to the fact, that the cultivators of the soil themselves have not been able to trace unerringly, the failures to their true cause, and hence, have not been able to adopt those salutary means of improvement which would thoroughly remove the agencies producing those failures. Occasionally, the severity of the weather, or other causes, present insuperable difficulties that cannot be counteracted by the most skillful cultivator; but on the whole, these may be viewed as exceptions, and not the general rule.

The natural tendency of a rich prairie soil is to be inert, and in order that it may become active and friable, it is necessary to bring to bear upon it powerful mechanical agencies, such as may be easily and cheaply employed by the farmer. Its latent powers, it is obvious, from the long period in which the small particles of the soil have remained buried beneath the surface, too deep to receive any benefit from the action of the rays of the sun, and atmospheric influence, can only be brought into active and profitable service, by those parts being acted upon by winter frosts, thorough cultivation and deep plowing, and by the puncturing operation of tap-rooted plants. The soil of this country contains all the requisite organic and inorganic properties, to fit it for the production of cereal as well as other grains for an almost indefinite period. No one can doubt this fact who will take the trouble to investigate the surface and subsoils to the depth that plants send down, if permitted, by deep tillage, their fibrous roots in search of the requisite food for their growth and maturity. It is the business then, of the husbandman to aid nature in her efforts to supply the human race with the necessaries and luxuries of life, and if he fails in doing this part, the miseries that are entailed upon all ranks of mankind are too obvious to require enumerating.

We hold that deep culture, autumn plowing, a rational rotation of crops, and the extensive cultivation of the clover plant, are among the prominent features that must be engrafted upon the agriculture of the west, in order that it shall take rank among the profitable and pleasurable pursuits of our country. Among the most important of those means for the amelioration of a soil rich in humus, lime, potash, and all the other requisite elements of fertility, are frost and clover. The clover roots ordinarily enter the soil to the depth of from twelve to twenty-four inches, and the frost and air, following the course of these roots, have by a gradual process, a mechanical action upon the soil, to the full depth they puncture the surface, which in due time change its stubborn character, converting it into a finely pulverised soil, adapted especially for the cultivation of the wheat plant. The soil does not require to be enriched by plowing under a heavy growth of clover, as would be found advisable on thin soils, such as are found on the uplands bordering the Genesee valley, but is solely required for the reasons already stated, the proof of which will be more fully illustrated on future occasions, when discussing this and other subjects of a kindred character.

We find the space alloted us for this paper is exhausted, and the items we proposed at the start to have discussed, are of sufficient interest to those who are desirous of becoming acquainted with the capacity of the west, for the profitable culture of wheat, to warrant their further elucidation in the December No. of the Cultivator. *Keokuk, Iowa, Sept.* 1, 1851.

Sketch of Putnam County Farms.

FARM OF LEONARD D. CLIFT.

Editors Cultivator—My time has been so much occupied of late, that I have not been able until now, to perform my promise of giving you a sketch of a Putnam county farm. The one I have recently visited with a view of giving you notes of it, is that of Leonard D. Clift, of the town of Carmel. I will begin by saying a few words of the

Drive to Mr. Clift's.—It was a fine August morning when I left home; the weather was excessively dry, but still the country wore a beautiful aspect for my eyes as in truth it always does. Part of my route skirted the northern extremity of the county of Westchester, and I saw there some fine farms and pretty scenery, to which the clear sunshine and soft summer air lent a peculiar charm. After a ride of some seven miles I reached Lake Mahopac; the suddenness with which this beautiful lake first bursts upon the view of the traveller, is such as to produce emotions in the mind of one who is an admirer of nature, more easily felt than described, and often as I have visited this charming scene it never grows wearisome to me; without the least intimation, upon rising a slight eminence, the lake in all its beauty for a distance of nearly three miles, is before you. I cannot loiter here to tell you of its beautiful islands—of its clear waters—of its pebbled shores, but passing on, ride along its margin for two miles, when the quiet scene that was before me but a few moments ago, is changed to one of busy activity. Here are situated the hotels filled to overflowing with men, women, and children, who have left the crowded city to seek a cool and healthy retreat by the margin of Mahopac. Here too are all sorts of scenes, some rowing on the lake, some fishing, some walking too and fro on its margin, others sitting in the shade of the balcony enjoying their "otium cum dignitate," while umbrellas and large-brimmed hats, both for ladies and gentlemen, told that the wearers were not disposed to brave the piercing rays of the god of day, to which we farmers are exposed. But good bye to the lake. Half an hour more brought me to the

Farm of Mr. Clift.—This consists altogether of about 280 acres of land, 35 of which is woodland, the rest tillable. The soil of the farm was originally a heavy loam, but good culture has made it a rich, deep, light loam. His *home* farm contains 160 acres, and this has been the especial care of Mr. Clift. Thirty-six years ago when Mr. C. first took possession of the farm, its aspect was very different from what it is at present, at least I should judge so from an anecdote he told me. Pointing to a beautiful meadow covered with verdure, he said, that field when I first came here was a swamp, covered with alders and bushes and briers of every description. The first year I was on the place after working my oxen one day till 12 o'clock, I turned them there, intending to use them again in the afternoon, but it was the last I saw of them that day; they got lost in the bushes, and when I found them it was too late to go to work with them. What Mr. C. said of that field, was true of pretty much all the farm—it was both wet and stony. To begin at the beginning and tell step by step the various plans and operations of Mr. Clift, would occupy more space than I can claim in your columns; suffice it to say that every part and portion of the farm, with the exception of about three acres which is yet to be reclaimed, and which is a fair specimen of what the rest was once, has been subdued and brought into a very perfect state of cultivation—indeed it is not too much to say that this farm is a model farm—everything about it speaks of permanence—whatever has been done has been well done. Here are no unsightly hedge rows to be seen, no scattered patches of bushes about the fields—no broken down fences—nothing at odds and ends. It is no idle praise I utter when I say, that go where you will about the farm, you will find a place for everything, and everything in its place. But I must proceed to give something in detail as to Mr. Clift's mode of operation.

Manures.—When I reached Mr. C.'s farm, I found him busy with his men, in clearing out a pond made originally for furnishing ice for his use, but now used also for irrigating some 30 acres of land; in fact the pond answers a three-fold purpose, for besides the two mentioned, it furnishes an abundance of manure from the sediment of the brook, which accumulates during the year. The quality of the manure is good; it is black, and rich looking,—fat and oily to the touch, and as the deposit is only of one year's duration, is probably free from acid matter, and ready for immediate use. His pond has furnished him this season, 160 large loads of manure, which he thinks, for many purposes, fully equal to as many loads of barn-yard manure. Mr. Clift has the same idea of manure that the late Willis Gaylord had, namely, "*with manure you can do everything, without it nothing;*" and he has always acted upon this. His object is to make and save manure in every possible way, and to apply it in such a manner as to do good.

Plowing.—Mr. C. keeps about 20 acres under the plow; he always manures heavily and plows deep—he has never sub-soiled, although he thinks it might be done to advantage on his lands. His crops of corn are usually from 60 to 70 shelled bushels to the acre. Oats about 30 bushels.

Chief Products of the Farm.—Formerly, the farm of Mr. Clift was devoted to the keeping, raising, fattening, &c., of sheep and cattle; but since the opening of the Harlem railroad to Dover, Mr. C. has changed from sheep and cattle, to cows. The farm is now what is called a milk farm—50 cows are kept for furnishing milk, which is taken to Croton Falls, 1½ miles from the farm, and goes from thence to New-York, per railroad. The milk is contracted for in New-York, and sold at four cts. per quart—cream thirty one cents per quart. Mr. C. exhibited to me his book of sales for milk and cream, for 12 months; they amount to the sum of $3,600.

Cows.—His cows are selected with great care, and are all of them what is called the native breed. Mr. C. prefers them altogether for our climate and part of the country, and thinks them generally superior as milkers. He has an Ayrshire bull four years old, a truly fine animal, which he intends crossing with some of his natives. He prefers the Ayrshires to the Durhams, as he considers them tougher and hardier, and therefore better adapted to our mountainous region.

Barns, Stables, &c.—Mr. Clift's accommodations for stabling, &c., are ample. During the summer the cows are let to roam in luxuriant pastures, but as soon as the cold weather sets in they are provided with good stables, well arranged for convenience, and fed hay, stalks, and slop of some kind, made from buckwheat bran, rye bran, or corn and cob ground together. Mr. C. has but a poor opinion of turneps for milch cows, but thinks carrots a valuable root for them. There are four barns upon the farm, two large and two small ones; the four are capable of holding 100 tons of hay.

Hay.—The quantity of hay cut annually, is from 100 to 150 tons. The time of cutting is when in full bloom. Timothy, red-top, &c., are always cocked the first day, and cured in two days, when the weather will permit. When the hay is stacked or put in the barn, Mr. C. uses about four quarts of coarse salt, and two quarts of lime, well mixed together, to about one ton of hay. The hay I saw certainly denoted care and attention in cutting and curing. It was green and bright, but still entirely free from anything like must.

Fences.—These are entirely of stone—there is not on the whole farm 20 rods of rail fence. The size of the fields are from three to five acres. The walls are all large, most of them are full four feet bottom—some even more; they are all settled in the ground to avoid being thrown by the frost, and to insure their durability.

Irrigation.—This is one of the leading features about Mr. C.'s farm. I have mentioned his pond which was originally constructed for ice—after it was done, a thought struck him that he might (if the altitude of the pond would permit) use the water to irrigate some of his meadows. To the eye it seemed a doubtful matter, (and here let me remark that the eye, even though a practiced one, much less an unpracticed one, should never be trusted in so important a matter, for the formation of the ground, intervening between two points, is often such as to deceive us, and make us think the water would be obliged to run up hill before it could accomplish what we wish,) but a level having been obtained, it was proved to the delight of Mr. C. that the plan was perfectly practicable. It was therefore immediately put into execution, and the result has been the watering of 30 acres of meadow, and the addition of some $300 to his annual income thereby. It is worthy of remark that much of the ground now watered was formerly wet, so much so as to require under-draining; the drains now perform their good work and the land is dry, sufficiently so to make irrigation most valuable upon it.

The plan pursued is as follows: below the flue are three main ditches going in different directions, and from them run smaller ones in such manner as to carry the water all over the fields. Mr. C. generally allows as much of the whole stream as is required for the purpose of irrigation to run in one of the main ditches for eight hours, then changes it to another for about the same period of time, and then to the third. There is an advantage in this—the grass is not kept *continually* wet, and the danger of a too rapid and spindling growth is avoided; when grass on watered meadows grows too fast and falls down, as all know, it is light, hollow, and of little value, but when a steady growth takes place, the value of the grass is equal to that of the best grasses which are not aided in their growth by the use of water. An opinion seems to prevail with some that if the water ceases to flow upon watered meadows from drouth or other causes, they will in consequence become more parched and feel the dry weather more than if they had not been watered at all. This I am convinced is a mistake. I saw at Mr. Clift's some fields, which, owing to the excessive dry weather and consequent low state of the streams, had not had a particle of water upon them for something like six weeks, and yet the grass upon them was rich and luxuriant, and bore a striking contrast to other fields which were out of the reach of irrigation. Nor is it alone at Mr. C.'s I have noticed this; wherever my observation has extended the result has been the same.

General Arrangement of the Farm.—There is upon the farm of Mr. Clift great attention paid to making everything as convenient as possible. Water, that indispensable requisite for man and beast, abounds every where. The house, the barns, the yards, are all amply supplied, and care is taken that at no time shall those supplies be cut off, at least so far as lies within the power of man to provide against the contingencies of drouth, &c. I give the following as an example. Several springs are connected by means of lead pipes, so that in the event of the main spring which supplies the house becoming low, the others are made to flow into it, thus giving an abundant supply at all times.

The arrangement for keeping the mik cool and sweet, between the time of milking and the time of despatching it to the cars, was both convenient and efficacious. A large trough is kept constantly filled with water brought from a spring, through lead pipes, and if required, ice can be added to make the water colder.

An ample ice-house adds much to the comfort and convenience of the household. The milk-house, where the butter for family use was manufactured, was built of stone, and so constructed as to combine convenience and good ventilation. There was one thing which could not fail of attracting my attention, and that was the perfect neatness, both in this and other household departments, which came under my eye, and which fully assured me that Mrs. Clift was a true farmer's wife, and that her duties were by no means neglected.

Reflections.—I have now taken a rapid survey of Mr. Clift's farm; the few hours I was there did not allow me time to make as thorough detailed an examination of everything I saw, as I could have wished, but it may serve to convey to the reader some idea of the cost and labor which has attended the progress of its owner, as step by step, he has brought it from its former wild condition, till it now "blossoms like the rose," and now, perhaps, as that reader, who may be a plain working farmer, with small means, thinks of the ample barns, the large stone walls, and the numerous conveniences, he will say to himself—"Yes! this is all very well, but no doubt Mr. Clift started the world with a handsome sum of money, and money can accomplish many things." It is not my wish here, to bring the private affairs of any man before the public; this, however, I will say, that Mr. C. has made the bulk of what he now possesses from his soil. He is, and always has been, a *working farmer.*

The means with which he started the world, were small, when compared with the end which has been obtained. Mr. C. has always gone upon the principle, that without labor no great thing can be achieved, and he has argued, also, that if he could make his own labor profitable, he could make that of another so, and he has, therefore, never been afraid to hire help when needful.

The sums paid out for labor have been large, and have been met from the profits of the farm. Now, in regard to hiring labor, I cannot but think, that generally, farmers are too much afraid of spending money in this way. If a man neglects his business, does no work himself, and hires men to do for him what he ought to have done himself, he must, of course, make a bad business of farming; but if after doing all he can, he finds things are neglected for want of time, and many things which ought to have been done, are left undone, for want of physical labor to perform them, it is our humble opinion that such neglect will tell against him much stronger than the dollar paid out would have done. One man can perform but a certain amount of labor, and it is folly for him to attempt more than he can perform well—whether the labor be mental or physical. It is a custom with many farmers, when a few dollars more are made than barely enough to support their families, to put it out at six or seven per cent interest, when, had it been invested properly upon their farms, which an inspection would tell stood much in need of it, they might have received 10 per cent for their investment.

Now I am far from recommending the expenditure of money upon a farm by working farmers, for *fancy improvements;* but there is a certain class of improvements which, if judiciously made, will always pay a handsome profit;—good fences, good out-buildings, and all arrangements tending to convenience and labor saving, will be found to pay the farmer a better interest for a while, at any rate, than seven per cent on bonds and mortgages, or money put out on merchants' and traders' notes, who often times make a failure, and rob the farmer of his hard earned gains.

There is one thing that operates much against the improvement of farms in our country, and that is the fact that so few farms remain for a great length of time in the same family. In England and some other countries of Europe, farms remain for years and years in the same family; whether that family is large or small, some one or more of its members takes possession of the homestead on the death of their parents, and works it as formerly. Not so here, even if a man takes the vocation of his father for his own and occupies the same farm, he is not apt to have it long before he is possessed with the idea of "*selling out to go west.*" He will not improve his farm therefore, for he is always *expecting to move,* even if he does not, and he thinks "it will not pay to improve for other folks, for nobody will pay the worth of the improvements;" so that in fact, often times farmers are found to be constantly getting worse instead of better. There is another thing too that hinders improvement, and that is the fact that so many young men leave their fathers' farms the moment they can escape from them. They will do anything else rather than "farm it." Educate a boy and he is pretty sure to go to the professions. I was struck with this when at Mr. Clift's. During some conversation with him, he stated to me that he wished to part with a portion of his farm. I was somewhat astonished at this, as after all the toil and labor of so many years, I thought he was ready to enjoy himself in contentment under the shade of his own dwelling, or wherever else his fancy might lead him. Upon asking his reasons for wishing to sell he stated that his family had never been large, his children were married and settled in life, and his son whom he had educated handsomely with the intention of making him a farmer, had chosen a profession; this left him in declining years to manage his farm alone, and he felt the care of the whole of it was more than he wished for at his time of life. Now this case is by no means a solitary one; others of a similar nature have come under my observation and have often impressed me with a feeling of sadness.

Such is the feeling towards agriculture by many of our young men, that they will go to fill situations in the large cities, in which they must give up all the freedom and independence of the farmer's life and become almost dependants upon the will of others.

In speaking to a friend, but a short time since, about the education of the agriculturist he remarked, "Educate them! why the moment you educate them they will leave the business—they will not be satisfied with its profits;" and this is the general feeling. When an educated man is found in the ranks of the working farmer, men in other callings and professions wonder at his choice.

Now in the name of reason and truth is agriculture such a poor business—does it afford such a poor return to labor and capital, that no man who wishes to live decently and respectably will enter into it, and that every man who has wit enough to get into any other business will leave it? Is it so menial a vocation as to debar from its ranks the man of talent and education? Heaven forbid! If there is a dark problem about it to be solved it must be solved, and it must be solved too by men of talent and education. Certainly no man will deny that the farmer, of all other men, is entitled, or ought to be from his toil, to all the comforts of life which other men have as the reward of their toil.

If other men in other callings are robbing us of our rights and preying upon our very life's blood, it is time that we call together a convention of farmers to know what measures ought to be taken to secure to us our rights. But if upon reflection we find that we are receiving a fair compensation for our labor and our capital, or that if we do not receive it the fault is our own, and comes from a want of knowledge or skill in our business, let us seek by a more thorough education, both practical and scientific, to acquaint ourselves better with whatever of agriculture we are deficient in. That every man can become rich in any occupation is not to be expected, or even desired, but that the farmer can by industry, energy, and skill, make for himself a handsome competency we believe, and the experience of such men as Mr. Clift fully proves it to us. Very truly yours, H. C. W.

Putnam Valley, N. Y., Sept., 1851.

The Canada Thistle.

On a recent visit to several counties in the state of New-York, I was surprised to observe the great extent to which the Canada thistle had spread since my departure from this region, thirty-four years ago. At that time, this pest of the farmers was scarcely known; now it seems to be an almost universal occupant of every part of Albany, Rensselaer, Schenectady, and Saratoga counties,—the only counties visited by me,—and I presume of every northern county in the state. Why is this permitted? I saw many of the fields pretty well cleared of it, but in every part visited by me, the road-sides were completely occupied by them, as if these places were reserved by the public as nurseries, to ensure a supply of the pest for all the neighboring lands. I was delighted beyond measure with the wonderful improvements in agriculture, everywhere exhibited; such crops were never seen in my day, in that region; such an appearance of universal thrift, of healthy and prosperous industry, I confess I did not expect to find, even in that hive of busy enterprise. But my picture of rural happiness was bordered and sprinkled—as if intended for embellishment,—with the horrible hedge-hog pest of the Canada thistle, and illuminated brilliantly by the ox-eye daisy. This was not so in my time. Perhaps we then did not possess the cultivated taste enjoyed by our more enlightened successors. Perhaps we were not then thought worthy of a visitation from our northern neighbors. But one thing I well remember. It was a standing rule, a Median and Persian law, that every member of the farm operatives was required to exterminate every pestiferous plant that he met with on the farm or on the road-side—"cut it down, why cumbereth it the ground," was the sentence passed and executed. Had this rule been universal, the Canada thistle would not now have been the theme of comment by every one. The fault seems to be in each man only looking to his own fields, and every body allowing the road-sides to take care of themselves, forgetting that a single plant on the road-side, will replant many fields with its seeds, for miles around it. It is of little use to exterminate the pest in the field, if neighboring plants be allowed to grow.

This evil has now become so great, that the exertions of individuals here and there will be of no avail. Nothing but hearty, unanimous co-operation, can accompish the object. The whole people must act simultaneously. They should set apart certain times from the middle of June to the middle of July, when every body should turn out and make an exterminating war upon the Canada thistle. They should be cut off close to the ground, not so deep as to touch the roots, and the tops gathered into piles to dry, and then burned. Not only the fields should be thus cleared, but all high-ways and bye-ways should be thoroughly cleared. After this general campaign is accomplished, the whole people should form themselves into a guerrilla band, and make individual war upon any thistle that shows its head above ground, wherever met with. This plan would, in a few years, rid the country of this pest, and nothing else can. For, as before remarked, if a single person in a township neglect his duty, every farmer in the township will suffer from it. A single plant, left on any farm or road to mature its seed, will send the seeds to all the fields for miles around.

The reason why the Canada thistle should be cut off close to the ground, and not disturbed in the roots, is, the roots, every part and portion of them, are furnished with latent wood-buds, which on the roots being cut or broken immediately begin to grow, and thus a new plant will be found for every piece of root, however small, that may be left in the ground. Thus to dig them up is simply to multiply them. But, if the roots are not cut or broken these latent buds never grow, and the whole remains a single plant. Now all plants require the use of the leaves; they serve the purpose of lungs; and if these are continually destroyed for a sufficient length of time the root must perish. Cutting off the top, the whole plant above ground, will accomplish this. I admit this is merely theory. I have had no experience with the Canada thistle. But it is *a* theory that I do not suppose can be refuted by practice. With all other plants of this peculiar nature I have found it effectual, and with all plants that have not those peculiar roots, a single cutting off at the top is certain death.

Whether the simultaneous movement of all the people can be accomplished and by what means, is a question. I fear nothing but legislative enactment could do it. There are always too many idlers and careless persons in all communities to admit of absolute unanimity in voluntary and persevering action in such a work, and nothing but such unanimity and action can ever accomplish it. Republican as I am, I for one would rejoice to see the people forced into their own good by the most strict law the legislature is capable of passing, and I do believe the legislature of any state in the Union possesses the power to compel any man in the state to destroy such pests; because, those who do not destroy all on or near their premises are fostering a nuisance that is highly injurious to their neighbors, and this no man has a right to do even by the common law.

I have writen this without knowing whether the subject has been sufficiently discussed in the Cultivator of late years or not. I presume so interesting a subject could not have escaped attention, and most probably all the suggestions I have made have already been proposed. If so the editor will excuse the trouble I have given him and throw these sheets aside.

The same plan of destruction should be pursued with the Oxeye daisey, except that it is infinitely more easy to effect the object. In the case of both Canada thistle and daisey, the dried plants should be burned, for the seed will ripen if either is in bloom at the time it is cut down, and if not burned they will be sure to make new and extended plantations.

I also observed at Saratoga Springs, especially in the neighborhood of the High Rock Spring, a great abundance of the *Conium maculatum*, the hemlock of the ancients, the deadly poison of all times. At the locality indicated, it is permitted to grow even under the windows of the houses, by the roadsides, and in all open spaces, and children were playing among the deadly plants, as carelessly as if they were among rose bushes. It does seem to me that the people should put a full stop to this growth. They can easily do so by cutting up and burning the tops while in bloom, two or three seasons successively. Yours, Gideon B. Smith.

Premium Cows in Massachusetts.

It is of importance to be able to compare the properties of animals in different sections of the country, in order to judge of their relative value. To make a strictly accurate test, it would be necessary that the animals should be placed in circumstances precisely similar. If the question related to cows, it would be desirable that they should be of the same age, should have calved at the same time, and should have received the same treatment for several months before the trial commenced, and while it was continued. But in the absence of any such accurate trials, we must avail ourselves of the results of such as make the nearest approximation to the desired point. With this view, we have taken some pains to obtain from the *Transactions of the Agricultural Societies of Massachusetts*, for the year 1850, the following facts in relation to the produce of butter by cows which received premiums in various counties in that state. We have directed our attention only to the quantity of butter yielded by the different cows, believing that to be the fairest indication of their value. Premiums were in many instances, awarded for the quantity of milk which the cows gave, in a specified time, but we have generally omitted any mention of these, as, except in cases where milk is sold, the test affords no reliable criterion of value. In many instances, neither the breed or age of the cow is mentioned in the reports; but we have given them where practicable, and also the time of their calving. The keeping of the cows was generally pasture feed only. It is not necessary to say that this varies greatly in value, according to the amount and nutritiveness of the herbage; at the same time it is no more than just to say that the pastures of Massachusetts will not compare in luxuriance with those of New-York, or some other sections.

Warren Averill, Ipswich, exhibited two cows at the Essex county show. One of them, from January 1st to May 20th, 1850—(140 days,) yielded 198 lbs. of butter. During this time it took eight quarts of her milk for a pound of butter; the last week in June, it took a trifle short of eight quarts to the pound. Another cow, owned by the same person, five years old, ("native,") calved August 27th, 1850, gave from 18th to 25th of September, (one week,) 111 quarts of milk, which afforded 12 lbs. of butter.

Wm. S. Lincoln, Worcester,—cow eight years old—calved April 30th, 1850. From June 1st to 9th, afforded 17 lbs. 12 oz. of butter. The same cow gave in the first nine days of Sept., 12 lbs. 12 oz. butter. She also gave from May 16th to Sept. 10th, (117 days,) 170 lbs. 12 oz. butter. Gave in "flush of feed," 16 quarts of milk daily.

John N. Whitney, Princeton,—cow six years old; calved March 20th, 1850. From June 1st to 9th, gave 15 lbs. 12 oz. butter, and from September 1st to 9th, 10 lbs. Another cow owned by the same person, produced from June 1st to 9th, 17 lbs. 12 oz. butter.

Henry J. Reed, Princeton,—cow calved April 26th, 1850. From June 1st to 9th, gave 14 lbs. 4 oz. butter, and from 1st to 9th September, 9 lbs. 4 oz. Another cow owned by the same person, gave in the same time in June 16 lbs. 14 oz. butter, and same time in September 11 lbs. 12 oz.

N. T. Leonard, Westfield,—cow seven years old ("native,") calved August 25th, 1850. In ten days in September, gave 19 lbs. 13 oz. butter.

Benj. H. Stedman, Chicopee,—cow eight years old, ("native,") calved February 21, 1850. In ten days in March, gave 19 lbs. 4 oz. butter; and from 10th to 20th of June, 17 lbs. 12 oz. During the time first mentioned, the average weight of the milk was 41 lbs. 4 oz. per day, and during the latter time, 34 lbs. 4 oz. per day.

J. M. Montgomery, Great Barrington,—cow calved April 10th, 1850. From 1st to 10th July, she afforded 17 lbs. 10 oz. butter; from 1st to 10th September, 16 lbs. 2 oz. The average weight of the milk at the trial in June, was 41 lbs. per day. Her feed during both trials, was grass only.

W. W. Hallenbeck, Great Barrington,—cow calved July 20th, 1850. From the 1st to the 10th of September, she afforded 17 lbs. 8 oz. of butter; from 11th to 20th, 19 lbs. 6 oz.—weight of milk averaging 36 lbs. 8 oz. per day.

John G. Wilson, West Stockbridge,—cow calved April 1st, 1850. The second week in June she gave 14 lbs. of butter; the first ten days of July, 18 lbs. 8 oz.; first ten days of August, 16 lbs.; first ten days of September, 14 lbs. 14 oz. Feed, grass only.

B. A. Race, Egremont,—cow yielded in the first ten days of June, 14 lbs. 11 oz. butter; first ten days in July, 13 lbs. 12 oz.; first ten days in August, 11 lbs. 8 oz. She was pastured in the highway all the time, and was fed with two quarts of "provender," (corn and oats ground together?) per day.

Stephen Karner, Egremont,—two-year-old heifer,—calved 23d May, 1850. In the first ten days of June, she afforded 10 lbs. 6 oz. of butter; first 10 days of July, 10 lbs. 14 oz.; first ten days of August, 10 lbs. 2 oz.; first ten days of September, 9 lbs. 6 oz. Her feed, the whole time, grass only.

To the above we may add, that S. G. Atherton, Harvard, Mass., states in the *Massachusetts Plowman*, that he has a "Durham cow, nine years old, which calved in April," and gave in the first seven days of July, 278 lbs. of milk, from which was made 13 lbs. 8 oz. of butter. He says he has another cow, (breed not mentioned,) six years old, which gave in the same time 259¼ lbs. of milk, which gave 12 lbs. 9 oz. of butter; and a three-year-old heifer, which in three days in June, gave 4½ lbs. of butter. The feed of all during the trial, and for some time previous, pasture grass only. He states that these belong to a lot of twenty-four cows, all running together.

Fashion makes foolish parents, invalids of children, and servants of all.

Trust him little who praises all, him least who is indifferent about all.

On the Value of Results Obtained by Comparative Analyses of Soils.

Analytical Laboratory, Yale College,
New-Haven, Conn., Sept. 24, 1851.

Messrs. Editors—In my last letter, when commencing the illustration of this subject by tables of analyses, I observed that the results there given, were not intended as examples of complete anylyses, but only as having been made for a certain purpose. They may, in fact, as some most important substances were neglected, be called somewhat rough analyses, and as such, may, in some quarters, be looked upon with suspicion; it may even be said, that if the examination had been very minute and critical, much of what now seems different, might have been reconciled, or that the points of coincidence in certain cases, would have been less distinct.

In order to throw light on this point, I will insert here two very elaborate analyses of cotton soils from Mississippi. These analyses were made in my laboratory some time since, by Messrs. Emie and Brewer. The soil A. is from land which now produces fine crops of cotton; the soil B. has been worn out by cotton cropping, and the produce has diminished very greatly. They are of the same character of land, on the same plantation, and were doubtless originally alike in composition. The following results show the differences which now exist.

		Soil A.	Soil B.
	Organic matter,	4.740 pr ct.	6.290 pr ct.
Portion soluble in water. A. 2.470 per ct. B. 0.147 per ct.	Silica,	1.299	0.072
	Alumina, iron & phosp'ic acid,	0.230	0.019
	Lime,	0.189	0.020
	Magnesia,	0.090	none
	Manganese,	0.034	none
	Potash,	0.248	0.120
	Chloride of sodium, (com. salt,)	0.107	none
	Soda,	none	0.015
	Sulphuric acid,	0.144	0.009
Portion soluble in acid. A. 4.96 per ct. B. 5.19 per ct.	Silica,	0.409	0.920
	Alumina,	1.644	1.820
	Iron,	1.448	0.670
	Lime,	0.535	1.340
	Magnesia,	0.576	0.080
	Manganese,	0.002	none
	Potash,	0.348	0.070
	Soda,	none	0.180
	Sulphuric acid,	0.070	0.080
	Phosphoric acid,	0.092	0.003
Portoin insoluble in acid. A. 87.83. B. 88.373.	Silica,	78.845	84.930
	Iron and alumina,	5.946	2.370
	Lime,	1.098	0.260
	Magnesia,	1.142	0.680
	Manganese,	0.623	none
		100.059	99.867

For the purpose of affording all the insight possible into the nature of the differences between these two soils, the portions soluble in water and acid have been examined separately. The substances soluble in water, represent those immediately available for the wants of the growing crop. The substances soluble in acid, represent the amount that will soon, and is constantly more or less rapidly becoming soluble, so as to enter the plant. That which is most difficultly soluble in acid is undergoing in the soil a gradual decomposition, which is continually and successively bringing small quantities into a condition fitted for the nutriment of plants. The last portion, that which is insoluble in acids, is almost always by far the largest, as in the present case. Even this insoluble part, does not remain unchanged; there are certain influences in the soil which slowly act upon it, and bring, though very gradually, small portions into a soluble state.

Thus, then, we look under the first head for that which will affect the present crop; under the second, for a supply which will be partially available by the next year; and under the last, we see stores which will ultimately come into use, though not to be considered as producing much effect at any one time.

Following these principles, we perceive that the soil A. has 2.470 per ct. soluble in water, while the soil B. leaves no more than 0.147 per ct., or about one-17th as much. Of magnesia, manganese, and chloride of sodium, there is none; of the phosphates almost none, and of the sulphates almost none. The alkalies, too, are not much more than one third, and lime but about 1-50th. These are most striking and important differences, and show very clearly how little the plants in the soil B. have to depend upon for their immediate sustenance, when compared with those in the soil A.

If we also compare the portions soluble in acid, we find that B. has more which is capable of solution, than A. On closer examination, however, it appears that this superiority is chiefly owing to the fact that a larger per centage of iron and alumina, that is of the less valuable substances, has been dissolved. Lime is also in greatly increased quantity, but magnesia is much diminished, the alkalies are smaller, and phosphoric acid is but about 1-30th.

In the last, or insoluble part, we still find the superiority with the soil A., by reason of its far greater per centage of lime and of magnesia. This soil. then. is superior in every respect,not only in its supplies for immediate use, but in its stores for the wants of future crops. It is, however, in the water solutions, that the most striking difference is manifested. By comparing these in the two soils, the inference may be at once drawn, that the soil B., through constant and long continued cotton cropping, has been specially exhausted of its *alkaline phosphates.* The same kind of exhaustion is apparent, although in a less degree, in the portion soluble in acid.

A rough analysis of these soils would not have given satisfactory results, for the quantities in which the most decisive differences are shown, are the least of all, and could only be determined accurately in a very carefully conducted analysis. These determinations are all verified, and therefore afford as they stand, a beautiful illustration of the proposition with which this letter commenced; that the carrying of our results to even very minute accuracy, only brings out the more striking differences, and gives us new confidence in this department of chemical anlysis.

From the study of these analyses, I was led to the conclusion that the cotton plant drains heavily upon the *alkalies* and *phosphates* of the soil, and therefore recommended the application of manures rich in these substances, to the soil B.

Since that time Mr. O. Judd, has made in my laboratory, an analysis of the ash from a cotton stalk, procured by him in Mississippi. His results being all duplicated, must approach very closely to the truth. The quantity of ash found by him was 3.141 per cent, there being nearly half a per cent more in the top than in the bottom of the stem. The results of analysis give the following as the composition of this ash.

ASH OF MEXICAN GREEN COTTON PLANT.

Charcoal and Sand,	3.76
Silica,	2.64
Lime,	19.82
Magnesia,	3.04
Carbonic acid,	14.32
Phosphoric acid,	28.40
Chlorine,	0.53
Sulphuric acid,	2.88
Potash,	24.09
	99.48

This is an examination of but a single stalk, and a single variety of cotton, but it is nearly certain that other stalks, and other kinds, although there may be a certain range of difference, will yet agree with it in their chief features, and in the character of their leading substances We may then with much probability, consider this analysis as presenting the general composition of the cotton stalk. A glance at the column of per centages, will show, that the predominating ingredient is the alkaline phosphates; the phosphoric acid and the potash together, amount to 52½ per cent. If we substract the sand and charcoal, which are accidental impurities, this proportion will be still farther increased.

We have here only the ash from the stalk; that from the seed would beyond a question show a still larger proportion of alkaline phosphates; these then are clearly, so far as our present knowledge goes, the leading substances in the ash of the cotton plant. This agrees precisely with the conclusion I had previously formed, from the comparison of a worn out and a fresh unexhausted cotton plantation.

The two tables compared above, point with perfect distinctness to the same thing, and while they thus agree in the indication of a most important fact to the planter, they support each other in the vindication of properly conducted, minutely followed, and even elaborate soil analyses.

Such analyses will doubtless present more problems than those that are less complete, and will require a wider range of knowledge for their entire comprehension and explanation; but at the same time they furnish to the instructed eye, data which lead to the most valuable conclusions, and also help to extend the range of our really *scientific* agriculture. Yours truly, JOHN P. NORTON.

GROWTH OF WOOD.—The season of the year in which forests are cut off, is believed to have an influence on the succeeding growth. To give some test of this matter, the Plymouth county (Mass.) Ag. Society, offered premiums, several years since, for experiments. A report was made last year, which sets forth the conclusion that—" the nearer the season of the ascending sap, [spring,] wood is cut, the more flourishing will be its succeeding growth." The person who received a premium for this experiment, states that he is " satisfied that the nearer the ground wood is cut, the better; the shoots will start and grow more thrifty, and are thicker and less liable to split down. By cutting wood often, you insure not only the greatest growth of wood but the greatest growth of money. Cattle should never be suffered to run on a wood-lot, while the trees are small."

Mixing Plaster and Manures.

Editors of the Cultivator—In the July number of your paper, I notice an article on "Mixing Plaster and Manures." Having had some practical experience in this matter, I will give you the result of it, with my views upon this question.

Several years since, I procured a cask containing 500 lbs. of ground plaster. This was placed in an out-building, where it remained one year, during which time, two or three barrels of urine were poured upon it, a few quarts being applied every day or two. After it had stood a while, by mixing a small particle of the saturated gypsum with an equal quantity of quick lime, and rubbing the two together for a short time, a great escape of free ammonia would follow; and if inhaled by the nostrils it was sufficiently pungent to draw tears, even from the eyes of a stoic. A portion of the ammonia, I presume, was in the form of sulphate, and another in that of carbonate, merely absorbed and retained mechanically, as would have been the case, if the urine had been poured upon clay or loam. At any rate, the amount of ammonia at the end of the year, in the gypsum, was very large, and nearly the whole mass being mixed with the compost heap, exhibited favorable results upon my crops. It will be observed in this case, that a great quantity of water or liquid was used, which served to decompose the plaster. For several winters past, I have almost daily strewed a few quarts of gypsum on my hovel floors, which are nearly water tight. In one of my hovels, where ten head of cattle are kept, I can readily tell in the morning, by the smell, whether plaster was applied or not. For when this has not been strewed over the floor, a very strong odor of ammonia is present, which is absent if gypsum has been used. In this respect my experience differs from Mr. Pusey's. Still, I think from the insoluble nature of gypsum, it has not the quality of *fixing* a very large amount of the ammonia in the solid part of manure. In the rear of my cows I have a water-tight gutter. In this trough the urine is saved, when no litter is used to bed the cattle. If plaster is sprinkled in it, the next morning the liquid in the gutter will be covered with a thin pellicle of carbonate of lime. In this case, the large amount of liquid dissolves or decomposes the gypsum—resulting in sulphate of ammonia and carbonate of lime. The power of plaster for fixing the ammonia in manures, under all circumstances, I think has been greatly over rated. Every body knows, or ought to know, that if newly slaked lime, or unleached ashes, are thrown into the vault of a privy, a great escape of free ammonia ensues. The reason of this is now generally understood. If dry gypsum is used for the same purpose, it has a precisely similar effect, though perhaps in a less degree. Any one having a few quarts of plaster, can test the truth of this at any time in their back-houses. The foul stench arising from a vault, is caused by the decomposition of sulphur, carbon, and phosphorus in the fecal matter, and their union with hydrogen. But when lime, ashes, or *plaster*, are thrown into the vault, the liberation of free ammonia overpowers or destroys the other foul gases, by the greater pungency of the ammonia, and thus everything is apparently rendered sweet.

Gypsum *will* liberate the ammonia from night-soil; doubtless it will have the same effect when mixed with guano. A few weeks since I poured three buckets of putrid urine upon a barrel of unleached ashes, and immediately covered the whole with three inches of finely ground and moist plaster; this I pressed down hard with a trowel. The volume of ammonia eliminated was enormous. The plaster had no more effect in arresting its flight, than a fish-net would have had drawn over the barrel. In regard to the economy of mixing gypsum with manures, I have come to the following conclusions: It will, in some degree, convert a portion of the carbonate of ammonia to a sulphate, or more volatile salt. It will mechanically absorb some; and when mixed with manure, is an easy and cheap mode of applying it to the soil. As far as my experience goes, land dressed with gypsumed manure, is remarkably favorable to a rank growth of clover; and in some sections of the country, a good clover-ley is believed to lie at the foundation of successful farming.

I have recently procured a copy of Prof. Norton's Elements of Scientific Agriculture. In looking it over, I find at page 98, he recommends that the pasty mass of bones dissolved in sulphuric acid, should be mixed "with a large quantity of *ashes*, peat earth, or charcoal dust." If wood ashes are mingled with the fine bone-dust of a button-mould factory, there will be a very great escape of ammonia. Would not the same effect be produced by mixing ashes with the dissolved bones?

At page 107, in sowing guano, he says, "it is best to mix with *ashes*, sawdust, peat, &c."

Unleached ashes will set the ammonia of guano free, as readily as the hydrate of lime. At page 111, it is put down that in "100 lbs of carbonate of lime, or common limestone, are 44 lbs. of water." This is, doubtless, a typographical error. I trust Professor N. will believe I have referred to his book, simply for the purpose of eliciting correct agricultural knowledge, and not in the spirit of criticism.

While my pen is in hand, suffer me to say to your correspondent, W. C. A., of Tioga, who complains of the "fire-fanging" of his sheltered manure, that if he will keep his hogs or young cattle upon the pile, or in any other way tramp it down solid, so as to exclude the oxygen of the atmosphere, he need fear no bad result from sheltering his dung. Does the manure in a sheep hovel heat and mould when trodden down solid by the sheep? No. The same rule will apply to the droppings of cattle when treated in the manner pointed out above. Levi Bartlett. *Warner, N. H., August* 5, 1851.

Trotting Horse Trustee.—A correspondent of *Frazer's* [London] *Magazine*, describes the trotting gelding Trustee, celebrated as having trotted, in harness, twenty miles in an hour. He was got by the imported blood-horse Trustee, who was also the sire of the running mare Fashion. Of the gelding, the writer says—"The old chestnut is half-blood; but you would never guess it, so chunky, and thick-limbed, and sober is he His action is uneven, and seemingly laborious; you would not think him capable of covering *one* mile in three minutes, much less of performing twenty at the same rate."

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

The Secret of a Great Improvement.

Three agencies have been at work for several years past, in extending to a prodigious extent the planting of fruit trees. One is agricultural publications; another is horticultural exhibitions; a third is the money offered by fruit-dealers in market. There is still another, which to most persons remains a profound secret, (judging from their actions,) although it is comprehended and carried out with great success by a few. If this secret were but well understood, generally, it would certainly give an impetus to the culture of fruit, such as it has never yet received.

It consists simply in a full appreciation of the truth, that *fruit trees, through all stages of their existence, need care and attention.* The gardener, who plants cabbages, melons, and celery, knows that he will get rather a scant reward for his labor, if he takes no further care of them after they are planted; and the farmer who forgets to hoe his corn, potatoes and carrots, will be reminded of his negligence in due time, when the day of need approaches. But a different feeling seems to have fastened on the minds of a great many who set out fruit trees. They appear to take it for granted, that when this is done their labors have legitimately ended, and that nothing now remains but to await their time, and partake of the fruit. Talk to them of watching over and taking proper care of their trees, and they regard it as a grievous burthen that we are about to impose upon them. Show them by actual results that a peck of peaches may not only be had more cheaply, but much better in quality, by reasonable care, and they will perhaps admit it for a moment, but their subsequent practice shows that it was only a floating thought. We see the effects of this mistaken notion in the multitudes of feeble and sickly young trees, enveloped in weeds and grass; in the fruitless plum and apricot trees, which have lost abundant half grown crops by the sting of the curculio; in the destruction of loads of reddening cherries, swept off by flocks of the cedar bird; in the mice-girdled apple trees, the black-knotted plums, the blight-stricken pears, the thriftless peaches, dwindling in premature age, from a want of pruning, or dying of yellows. It is no wonder that many without orchards are deterred from planting by such poor examples, or those who have them, from renewing them, by such discouraging results.

On the other hand, one good example of careful and successful culture,—one orchard or garden filled with clean, thrifty trees, well loaded with delicious fruit, often has a wide and beneficial influence, although the owner may be sometimes pointed at as the "*lucky man*, whose trees seem always to grow better than other people's trees," forgetting the old axiom, that "diligence is the mother of good luck."

◆

Pomological Meeting at Rochester.

During the late State Fair, two very interesting evening meetings were held at the City Hall in Rochester, for pomological discussion. They were attended by some of the best practical cultivators in the country, and were of much interest to fruit cultivators, as all such meetings must be where so much experience is brought together.

The first evening was occupied in discussing the merits of the *Hawley*, *Northern Spy*, *Wagener*, *Melon*, and *Early Joe*, new varieties of the apple of considerable celebrity in Western New-York.

The Hawley was generally admitted to be a fine apple, but subject to specks of bitter rot, which sometimes lessen greatly the value of the crop. On the rich soils of Cayuga county and some other localities, large trees, long in bearing, were stated to have succeeded well and to have borne uniformly fine fruit, while on light soils, its success had been uncertain. Instances, were however given, where it had borne excellent crops on light soils. The convention finally concluded to regard it as a fruit of high quality, but the best soil for its perfection as not yet fully determined.

The Northern Spy, as was to be expected, excited much interesting remark. It had borne finely at Buffalo, besides in its native region, and with fair cultivation (not with the total neglect received by most of our orchards,) will produce good crops. B. Hodge, of Buffalo, said he would not be afraid to plant out thousands of trees for orchard. L. F. Allen said that if farmers would cultivate them as well as they did their potatoes, they would find them one of the best of apples. He found that the upright compact heads were improving as they came into bearing, the loaded branches bending outwards and producing a handsome form. These favorable opinions were in accordance with the general voice of the meeting; a caution was however given, that nearly all the favorable experience had hitherto been with comparatively young trees; and in its tardy bearing, the variety was unfavorably contrasted with the Baldwin—an evil however of only short duration.

The Wagener did not elicit such general commendation as the Spy. It was admitted to be an excellent bearer, and by some was regarded as of the highest quality as a winter and spring apple, while others did not rate it quite so high. On the whole it was concluded that present information was not extensive enough to recommended it for general cultivation, but only for extensive trial.

In connexion with this fruit, and the caution needed for new varieties, an interesting anecdote was related by P. Barry, showing the eagerness of some for untried fruits. A man had purchased a pear tree of a new and highly vaunted sort. But before it bore, this sort fell into disrepute, and he at once re-grafted it with a more reputable variety. But this reputable variety was laid aside by one of the Pomological Conventions, and he now has the third sort growing upon its root, without having as yet seen the fruit from either.

The Melon, or Norton's Melon, was not largely commented on, but was regarded by those who spoke of its merits, as an exceedingly pleasant and refreshing fruit—the tree of slow growth, but a good bearer—the fruit keeping through winter, but often lessened in its keeping quality by injury in gathering, from its texture. It was recommended as a good apple for family use.

A similar value was accorded to the Early Joe, an early autumn fruit, possessing much delicacy and richness, and an exceedlingly agreeable flavor, and great bearer. But it must be eaten at the moment it is at its best state, and it nearly always becomes poor when sent to long distances.

THE SECOND EVENING was occupied with the discussion of the PEAR BLIGHT and the CURCULIO. In relation to the former, it was generally admitted that the knife was the best remedy—*thorough, prompt*, and, if needed, *repeated* excision generally proving effectual, except in very virulent cases. Some trees, it was stated, had been repeatedly attacked with blight in different years, and by cutting had been saved, and were now in a healthy bearing condition. In other cases, the disease had been so severe as to destroy the tree at once. Sometimes, as Dr. Warder of Cincinnati observed, the blight first made its appearance at the foot of the trunk, when of course no remedy could be applied. When severe, the disease was generally regarded as contagious.

As to its immediate cause, nothing satisfactory was claimed by any one. Like the potato rot, the more extensive and minute the observations, the less appeared to be ascertained. P. Barry strongly advocated the insect theory; but as no insect was ever seen,[*] and as all other injuries or poisons to vegetables by insects are quite *local* in character, the evidence was regarded as too slender to support this theory, and the convention did not favor it.

For the *Curculio*, the best and most certain remedy was conceded to be *jarring down on sheets*, while the confinement of pigs and poultry was a valuable auxiliary, and where the insects were not abundant, sufficient in itself; the trees being protected from the pigs by stakes or twigs of sweet-briars. It was stated that a chief reason why jarring had sometimes failed was the softened pounders used for striking the tree. A small limb should be sawed off, leaving a short stump, against which a sharp sudden blow may be given by a hammer or axe, without any injury to the tree. A quick sudden blow is necessary to loosen at once the hold of all the insects. The use of lime had been found both troublesome and ineffectual, the least chafing between fruit and leaves being sufficient to wear off small portions of the lime, through which the insect quickly punctured the skin.

The Black Ant.

Complaints have been frequently made, of the black ants which infest gardens; and various plans to expel them, have been proposed. I doubt however, if *expulsion* is the best remedy. If we drive them from their nest, by rendering it uncomfortable, they generally, if not always, make another very near, so that nothing is permanently gained by the process.

Instead of expulsion, I would therefore propose *extermination*; and this may be easily effected by placing near them, *a basket of ripe apples*. If one finds it, the whole nest is quickly apprised of the discovery; and while feasting they may be quietly carried to the water, or crushed—by letting out only a few at a time, on a barn floor. This morning I carried off more than a hundred at once. D. T.

Good Vegetables and Small Fruits.

EDITORS CULTIVATOR—I have, after carefull observations, for a term of years, come to the following conclusions:—

1. That the *best table* pea, is Hair's new mammoth Dwarf Marrow, combining dwarf size (two feet) with great productiveness and *unequalled richness*. Darey Marrowfat is the largest pea I have ever seen, but Hair's is only next in size, and superior in other respects to that and the Victoria marrowfat, and some dozen other of the choicest peas from the London market, which I have proved. I prefer the Early Emperor pea to any other early Pea. The Champion of England is fine, but only a week or two earlier than Hair's, and decidedly inferior in all other respects. I obtained Hair's Dwarf Pea from Thorburn, N. Y., two years ago, and the Darey Marrowfat from a friend who left London in February last.

2. I cannot tell whether the Early Shaws I received from Columbia County, or the premium Potato of Mr. Smith of Buffalo, at the State Fair at Syracuse, is the best early potato. They have both proved earlier this season in my garden, than the ash-leaved kidney, and are both of very superior quality and size.

One of Mr. Killam's seedlings, from Mexico, N. Y., I rather think surpasses in quality the Carter, or any other potato I have tried, and is almost as early as the two first mentioned, and is decidedly the finest potatoe I have ever seen.

3. We still prefer the Celery, or as thought to be, the Curled Silesia Lettuce, to any other of the more celebrated varieties. It has a finer flavor, and retains it better with us than any other variety.

4. We have monstrous gooseberries in my garden this season—larger than Crompton's Sheba Queen, but none that at all compare with it in flavor.

5. All my strawberries have done well this season; but Burr's new Pine has surpassed all in flavor and productiveness. We will see how it will compete next season, with "Walker's Seedling" which I have just received, and McAvoy's Superior, and some other new kinds.

6. Rivers' New Giant Raspberry has been the most productive berry of this kind on my ground; but being only the first season of trial, it ought not to be considered conclusive. The Ohio Everbearing has fruited for its second crop, which the large fruited monthly has not done as yet. The large American White bears largely, and is a strong grower. R. G. P. *Palmyra, N. Y., Sept.*, 1851.

◆

ADVANTAGES OF DRAINING.—Edward Brooks of Boston, stated at one of the Agricultural meetings, that after thoroughly underdraining a piece of wet ground, the soil not only became firm so as to bear a team, but that the crops may be started a fortnight earlier.

PAINTING ROOFS.—The roofs of all buildings should be painted of as light a color as practicable. Dark colors or black, absorb the sun's rays, warp the shingles, and render the garret and upper rooms uncomfortably hot.

HYDRAULIC RAM.—J. J. Conet states in Moore's New Yorker, that he erected a water-ram which sends water 62 rods, at the rate of 15 gallons per hour, to his house and barns, elevating it 100 feet.

---

[*] These remarks not applying to the injury by *Scolytus pyri*.

A Question about Young Fruit Trees.

Two years ago I had a small orchard set out by an unskillful workman. Some of the trees were planted from four to six inches deeper than they stood in the nursery. Consequently they have grown very little. Would it be a good plan to take up these trees and reset them in the fall or next spring? Or is there some way of forcing new roots to start near the surface? An answer through the Cultivator would greatly oblige, AN INEXPERIENCED FRUIT-GROWER. *Steuben, Aug.* 14, 1851.

[If, upon examination, these trees have not sent out a new set of roots nearer the surface, which is by no means probable, then the best course undoubtedly is to re-set them no deeper than they stood in the nursery. If done the present autumn, it would be prudent to bank up around them several inches till spring, not only for protection against mice, and stiffening against the wind, but for shielding the tender and newly uncovered bark from the severity of the winter.

Many trees are injured or destroyed by setting too deeply. A better practice is to dig very shallow holes or no holes at all, and to set the trees nearly or wholly on the surface, making a broad mound over the roots. This is the best treatment in all cases where the soil is rather wet or heavy. ED.]

Disease in Fruit Trees.

Can any of you fruit growers give information respecting a disease which has caused the death of several of the apple trees in my orchard during the past two years, and is new in this section of country? It attacks vigorous, growing young trees, from eight to ten inches in diameter, about the middle of 7th month. The first appearance of the disease is, the bark for about a foot from the ground turns black, and upon examination I found that portion of the trunk and the roots entirely dead, devoid of all sap or any appearance of life—the rest of the tree retaining its vitality and maturing autumn fruit as usual. By the ensuing spring, the trees die. At first, I attributed it to the 'borer,' but upon the closest scrutiny I could find no symptoms of their presence. The ground is in a high state of cultivation, and is occasionally left to grass. J. M. *Quakertown, Pennsylvania.*

Correction.

MR. EDITOR—I regret to be under the necessity of correcting the statement I made to you some few weeks since in my garden, that tanner's oil was a remedy for the black ant among my strawberry vines. It certainly seemed to be at the time, and for a week or two thereafter the remedy appeared to be perfect. But alas! the ants have returned to the same plants, and besides I find the oil results injuriously to the plants.

I am now trying a weak solution of the sulphate of potash, or a slight sprinkling of it pulverised, with some encouragement as far as I have observed its effects, but my continued acquaintance with the habits of the ant, (for it is the greatest pest I have,) will caution me against concluding from any present hopeful appearances that he can be effectually driven off with it.

The sulphate of potash decidedly invigorates the plants. R. G. PARDEE. *Palmyra, July 7th,* 1851.

Cultivation of the Blackberry.

EDS. CULTIVATOR—I enclose you a slip from to-day's N. American (of this city) relative to the culture of the blackberry near Boston. I am very desirous of obtaining some information about this matter, and not being a subscriber to any Boston Ag. Journal, I shall feel obliged to you to make inquiry about the time of transplanting it, method of culture, &c., of which I may avail myself through the columns of your Journal. Such information I think would be acceptable to your subscribers in this neighborhood. Yours, respectfully, ALGERNON ROBERTS. *Philadelphia*

[The slip was not received. The cultivation of improved varieties of the blackberry is exciting increased attention in the vicinity of Boston. Hovey's Magazine states that several of the berries lately exhibited by J. LOVETT, of Beverly, measured *one and a half inches in length.* The same journal states that "a dozen vines, well established will yield sufficient fruit for an ordinary family."

S. W. COLE, of Boston, says, "We have seen this fruit sold at $1 a quart, that was not a whit better (though fine) than we have picked (a quart without moving from our steps) on new lands in Maine. We have measured bushes of one year's growth 10 feet high. We did not dream, in our boyhood, when tearing our legs among thousands of brambles, of ever seeing this fruit cultivated, and sold at enormous prices. The blackberry ripens long in succession, coming in immediately after the raspberry. Owing to its great excellence, bees, wasps, flies, &c., claim a large share. Some *blackberries* are *white*, but they are as great an anomaly as a *white blackbird*, or *white crow*, which is seldom seen.

SOIL, PROPAGATION AND CULTURE.—The blackberry grows freely in a warm, tolerably dry or rather moist, deep, rich soil. It abounds among stones, old logs, fences, and natural hedges. Keep the land rich and mellow. Besides other manures, use ashes, leaves, and vegetable mould. It is propagated by seeds, and by offsets at the roots. Train up new wood, and cut away the old, to keep the bushes vigorous and productive.

HIGH BUSH, (*Rubus villosus.*) Fruit large; long-ovate; shining black; very tender, juicy, of a sweet, rich, spirited, aromatic flavor, resembling the orange. Growth straight and upright, then the tops become recumbent. White blossoms. Downing's account of this fruit does not come up to the valuable wild variety in Maine.

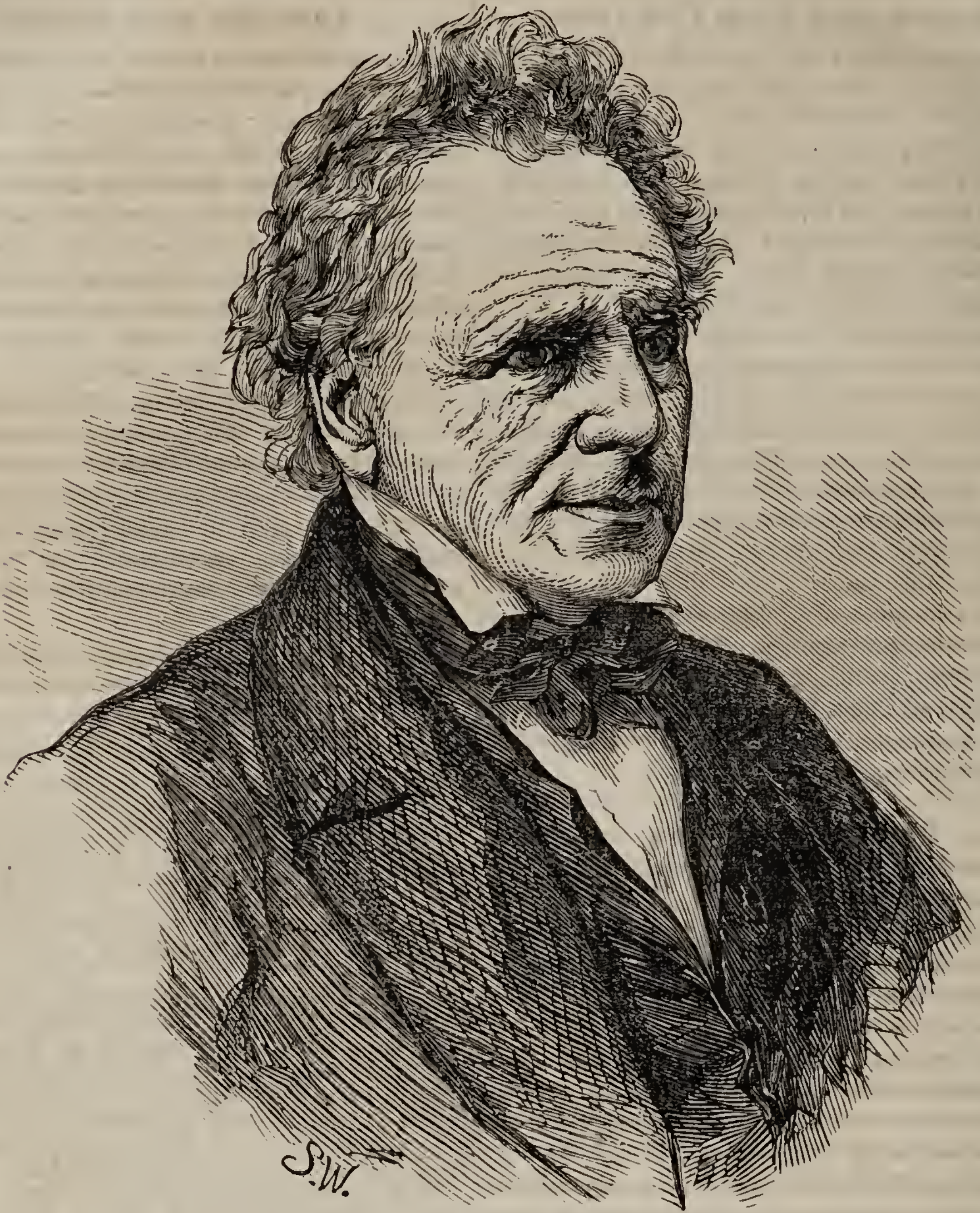
LOW BUSH, (*Rubus canadensis.*) Small; roundish or irregular; black or reddish-black; rather tart, but brisk, pleasant flavor.

The Manettii Rose for Stocks.

Extract of a letter from an emiment florist in the South.

I had long wanted to get the Manettii, and wrote to Philadelphia for it last spring, but failed. I confess I like the budded roses very much: *the flowers are almost always large and fine;* and though not so long-lived as when they grow on their own roots, yet it is not much trouble to bud them anew as often as we want a fresh supply. Besides this, there are some few varieties that I cannot get to flourish on their own roots. The Chromatella is one of these; but it succeeds well by budding, and produces a great quantity of fine flowers.

[With me, the Chromatella has grown well on its own roots—one stem, the growth of this season, is about 4 feet high—though possibly it might do better on another stock. D. T.]

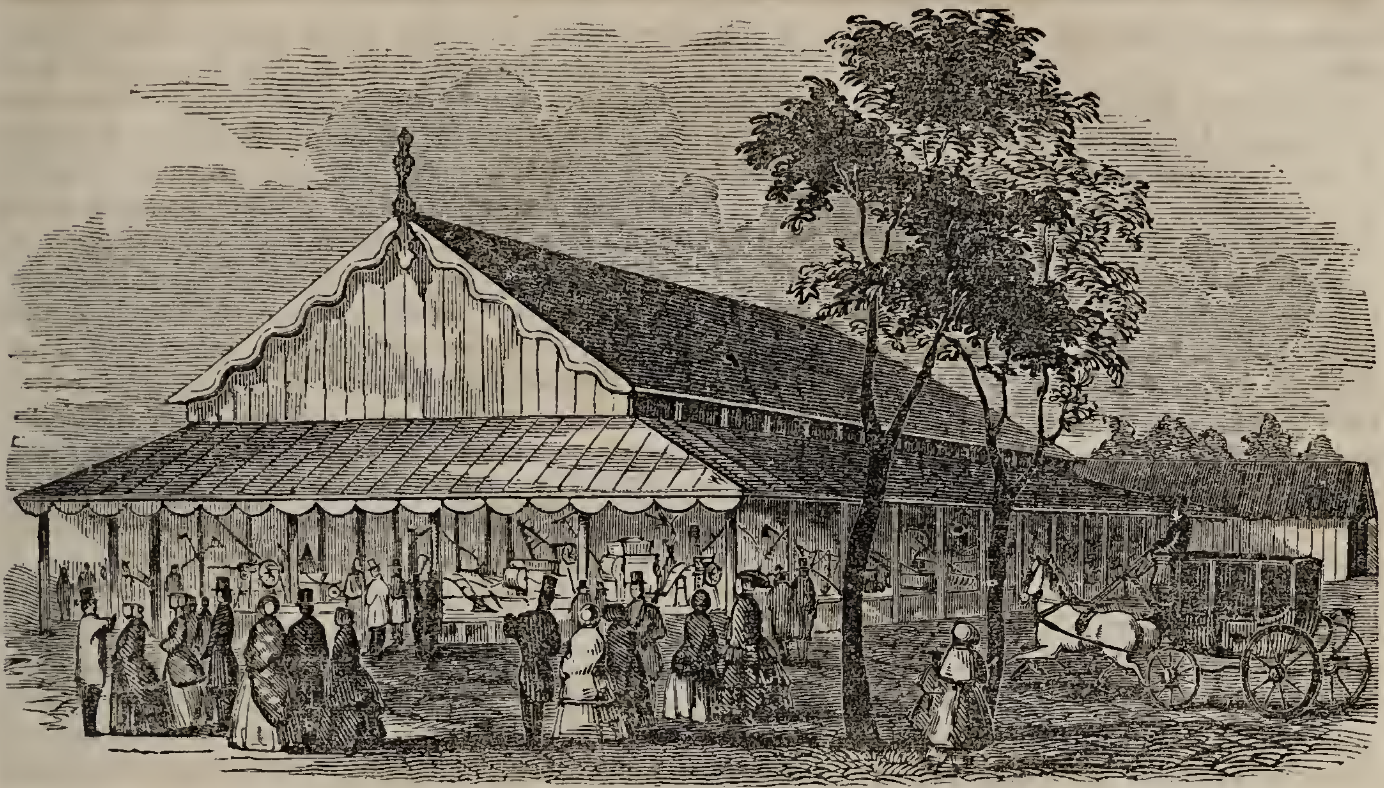


John Delafield, President of the New-York State Agricultural Society.

The above is an excellent portrait of the present presiding officer of the New-York State Agricultural Society. Mr. Delafield has been well known to our readers, and to the farming public of the country generally, for several years. He is known not only as an able and instructive writer, but as a most systematic, thorough and successful farmer—his farm having received the first premium of the N. Y. State Society in 1849. Hundreds of persons have visited his farm, and made themselves acquainted with its management, and many useful ideas and suggestions have been thus obtained, which, by being widely disseminated, have produced extensive results. In fact, Mr. Delafield's labors in the improvement of agriculture, are highly appreciated by the people of New-York. In the county of Seneca, in which he resides, he is acknowledged to have rendered important services in the introduction of improved implements of husbandry, and labor-saving machines—among which may be mentioned the drain-tile machine, which is producing immense benefits—and also in awakening a spirit of improvement by the diffusion of information, and by the numerous useful, practical examples he has afforded. Not least among his praiseworthy labors, is that of making an Agricultural Survey of Seneca County, a work which was undertaken at the request of the Executive Board of the State Agricultural Society, and was completed last year. The Report is embraced in the Transactions of the Society for 1850. It is a document of much interest and value, presenting in an admirable form the subjects to which it is devoted, and may, in this respect, be taken as a pattern for imitation.

In the discharge of his duties as President of the Society over which he presides, Mr. Delafield has exhibited the same good judgment and systematic skill which have ever characterised his business operations, and both in his management as an officer, and in his deportment as a citizen, has won the sincere esteem of those with whom he has been connected.

Preparations for winter should be made with as much dispatch as possible. Animals should be provided with shelter,—tender plants should be properly protected,—vegetables and fruits should be secured against the attack of frost.



Mechanics' Hall, State Fair Grounds, Rochester.

Implements at the New-York State Fair.

The show of agricultural implements at the late Fair at Rochester, in respect to the variety of articles, and the extent of competition for the different kinds, was superior to any display we have ever witnessed. We have more than once remarked that improvements in agriculture in this country, have taken their rise more from the improvements which have been made in implements, than from any other cause. The advance which has taken place from the cause here alluded to, is valuable in two important aspects: first, from the more thorough husbandry which has been induced, and the better and more certain crops which have been obtained; and second, from the economy of labor, which the introduction of superior implements has brought about. On both these points the advantage gained has been very great, and the labor-saving principle—or at least the saving of manual labor—has been of incalculable benefit to the farmers of many sections of the country.

Prominent among implements of this character, which are of modern invention or introduction, are Reaping Machines. It is true, however, that machines designed for reaping grain by horse-power were tried in England fifty years ago, and also at several subsequent periods; but their practical use is of comparatively late origin, the credit, which we are proud to say, belongs to American mechanics. This assertion will not, it is presumed, be denied; but at the same time, it is no more than fair to admit that the previous attempts at the construction of such an implement, although falling short of the object, were doubtless highly useful in the development of principles, and in showing, to some extent, what was, and what was not practicable.

It is now several years since various reaping machines have been used to a large extent in this country. They have been used to more or less advantage in most districts where wheat is largely cultivated, though the most striking and manifest advantage from their use, has been found in the newly-settled western states, where, from the scarcity of manual labor, it would have been absolutely impossible to have secured the harvests in the ordinary way of reaping or cradling.

The expediency of using these machines, depends, of course, upon the circumstances of the farmer—somewhat on the character of the surface of the land, that which is comparatively smooth and level being desirable—the number of acres of grain grown, and the readiness with which hand-labor may be obtained, and the price it will command. In the older and most populous sections of the country, where various crops are cultivated on the same farm, it is often the case that the farmer has no more wheat or other small grain, than can readily be cut in the proper stage by the hands ordinarily employed on the farm. If he has not more wheat, barley, or oats, than a machine can cut in a day or two, he will naturally conclude that it is inexpedient for him to purchase a machine at the cost of more than a hundred dollars for this purpose. It is still, however, a question whether this objection to the use of machines might not be advantageously overcome by the implement being owned by a man who might make cutting grain, by the acre, a regular business during the proper season.

It is known to our readers that two noted American reaping machines, have been introduced into England during the present season, and that to one of these, Mr. McCormick's, the great medal has been awarded at the Industrial Exhibition of all Nations. This machine, as well as that of Mr. Hussey's, has been subjected to various trials in England, with results highly satisfactory as to their operation, results which seem to have inspired a conviction that they can be extensively adopted in that country, notwithstanding the comparative cheapness of labor, with profit to the farmer—or at least with profit to the class of farmers who produce grain on a large scale.

Both Messrs. McCormick's and Hussey's machines were described (with cuts) in our current volume, pp. 41, 42. Both were exhibited at Rochester; Mr. McC.'s by by Hon. Thos. J. Patterson, Rochester, and Mr. H.'s R. Hussey & Co., Auburn.

Several other reapers were exhibited which deserve mention. B. Densmore, Brockport, offered one which had a rake attached to it for the purpose of removing the grain from the platform, without the aid of hand-labor. The apparatus was so geared that the rake would sweep off the grain at regular intervals. As none of the machines were tried, we cannot tell how well they might perform what was claimed for them. Another self-raking machine was offered by Anson Palmer, Brockport.

Mr. T. D. Burrall, of Geneva, offered a machine of his own invention, for which several advantages are claimed. It is very compact in its form, occupying but little space, may be readily adjusted to cut the grain at various heights, and discharges the grain in its own track —thus obviating the necessity of moving it before the machine takes another swath. It is also stated to operate well as a mowing machine for grass. The cost is from $110 to $125.

Ketchum's mowing machine, manufactured by Howard & Co., Buffalo, was exhibited. It is a very simple implement, strong, and apparently durable. It is well spoken of by those by whom it has been used.

Drill Machines, or Seed-Planters.—In these implements there was a large display, embracing nearly all the machines of established character, and several of late introduction. We noticed Seymour's, manufactured by P. Seymour, East-Bloomfield, Ontario county, (for cut and description, see Cultivator for 1850, p. 273,) which is much used in the western part of the state. The same person also offered his broadcast sowing machine, which has been described in this journal. Mr. Seymour has also combined the broadcast apparatus with the drill, in one frame—the whole being so contrived that the grain is planted in drills, and clover and grass seed sown broadcast at the same operation.

The drill made by Bickford and Huffman, Macedon, N. Y., (described, with cut, in our current volume, p. 209,) was also exhibited. It appears to be simple and effective. W. Rowland, Brighton, N. Y., offered a machine constructed for the purpose of depositing portable manures—as lime, plaster, guano, ashes, ground bones, &c., in the drill with the grain. A drill offered by W. Nichols, Grimsby, C. W., appeared well. A drill made Nathan Ide, Shelby, Orleans county, also made by Levi Wells, Rochester, is said to give good satisfaction. The same may be said of Atkins' drill, made by J. Ganson, Brockport. Gatling's drill, invented by R. J. Gatling, Indianapolis, Ind., in 1848, is somewhat peculiar in its construction, and is thought to possess some advantages. It combines to some extent the operations of the cultivator and drill. The process for distributing the seed is ingenious and effective. A series of screws, in the form of augurs, are so arranged that by their constant turning they deposit the seed in the drills with the utmost evenness and regularity. This apparatus obviates the liability of the machine being clogged, and insures the planting of the requisite amount of seed.

Cultivators.—Considerable improvements have been made in these implements, especially in their adaptation to field cultivation, and in the preparation of the soil for wheat and other crops. There is still room for considerable improvement in respect to the shape of the teeth, and the position in which they should be set in the frame, in order to clean the soil of foul plants, and to insure the working of the implement with the greatest efficiency. For the eradication of couch, or "witch" grass (*Triticum repens*) in particular, but few of the implements used by our farmers are capable of properly accomplishing the object. They should be constructed more to draw out—bring the roots to the susface, so that they may be gathered up and carried off the ground.

The cultivators offered on this occasion by J. Ganson, Brockport, had wrought-iron frames, the shanks of the teeth of wrought-iron, the feet or cutting part, of steel. The teeth could be set in the frame, by means of thumb screws attached to each, to work at any required depth. A one-horse cultivator offered by the same person constructed in a similar manner to the preceding, appeared to be an excellent article.

We noticed several other good field cultivators, as Ide's, made by Levi Wells, Rochester. Spence & Atkins', made at Chili, Monroe county, N. Y. D. W. Martin's, North Greece, Monroe county, N. Y., (iron frame and steel teeth,) D. Hinkston's, Clarkson, Monroe county, (cast-iron,) and T. D. Burrall's, Geneva.

Clod-Crushers.—These are designed for breaking lumps or clods of hard earth, which it is difficult, and in some cases impossible to reduce by the harrow and common roller—especially on stiff clay soils, which are broken up during drouth. They might be used with excellent advantage. One was exhibited by John Walker, Chili, Monroe county. They are also made by T. D. Burrall, Geneva.

Plows.—There was a large display of these, embracing collections of various patterns and sizes from the establishments of Ruggles, Nourse & Mason, Worcester, Mass., offered by Rapalje & Co., Rochester, Martin & Co., Sutton, Mass., Bosworth, Rich & Co., and Starbuck & Co., Troy, Eddy & Co., Union Village, Washington county, N. Y., Allen & Belding, Rochester, and T. D. Burrall, Geneva.

Threshing Machines, Horse-powers, &c.—Of these there was the usual variety, but we noticed little as worthy of note that has not been previously presented to the public. Threshing machines were operated by various forms of lever or sweep power, as well as by the rotary or endless chain principle. Of the former, we noticed Pitts', with separator attached, made by John A. Pitts, Rochester, and of the latter the chief competition was between Emery & Co. and Wheeler & Co., Albany. Taplin's was offered by Eddy & Co., Union Village. All these have been previously described in our columns. They probably combine the advantages of the various modes of applying horse power, in as high a degree as has ever been attained. Wheeler's winnower and separator, described in our last number, was in operation, attached to their horse-power and thresher, and appeared to give entire satisfaction.

List of Premiums

Awarded at the State Fair at Rochester.

CATTLE.—Short-Horns.

Bulls—Over three years old—1. Sherwood & Stevens, Auburn, Earl Seaham, $25.—2. L G. Morris, Fordham, Lamartine, $15.—3. Lewis F. Allen, Black Rock, Exeter, $5.——Two years old—1. L. G. Morris, $20.—2. W. T. & N. Chappell, $10.—3. J. G. Peck, West Bloomfield, $5.——Yearlings—1. J. M. Sherwood, $15.—2. E. W. Sheldon, Sennett, $10.—3. L. G. Morris, $5.——Bull Calves—1. J. M. Sherwood, $10.—2. Aaron Barber, Avon, $3 and Trans.

Cows—Over three years old—1 and 2. L. G. Morris, $25 and 15.—3. S. P. Chapman, Clockville, $5.——Two years old—1. L. G. Morris, $20.—2. S. P. Chapman, $10.—3. L. F. Allen, $5.——Yearlings—1. N. J. Becar, Brooklyn, $15.—2. J. M. Sherwood, $10.—3. S. P. Chapman, $5.——Heifer Calves—1. S. P. Chapman, $10.—2. E. W. Sheldon, $3 and Trans.

Best three Cows and three Heifers owned by one exhibitor—S. P. Chapman, $25.

DEVONS.

Bulls—Over three years old—1. W. P. & C. S. Wainwright, Rhinebeck, $25.—2. E. N. Thomas, Rose, certificate, his bull having previously received the same prize.—3. M. C. Remington, Sennett, $5.——Two years old—1. H. Colby, Scipio, $20.—2. Saml. Baker, Edmonston, $10.—3. Albert Allen, Jordan, $5.——Yearlings—1. L. H. Colby, $15.—2 and 3 Ambrose Stevens, New-York, $10 and $5.——Bull Calves—1. Miles Vernon, Stafford, $10.—2. Ambrose Stevens, $3 and Trans.

Cows.—Over three years—1. W. P. & C. S. Wainwright, $25.—2. L. G. Morris, $15.—3. A. Stevens, $5——Two years old—1. R. H. Van Rensselaer, Morris, $20.—2. L. G. Morris, $10.—3. Miles Vernon, $5.——Yearlings—1. A. Stevens, $15.—2. W. P. & C. S. Wainwright, $10.—3. M. C. Remington, $5.——Heifer Calves—1. R. H. Van Rensselaer, $10.—2. H. N. Washbon, Morris, $3 and Trans.

Best three Cows and three Heifers—E. P. Beck, Sheldon, $25.

HEREFORDS.

Bulls.—Over three years old—1. Allen Ayrault, Geneseo, $25—2. Rowland Sotham, Black Rock, $15—3. W. H. Sotham, Piffardinia, $5.——Two years old—1. Rawson Harmon, Wheatland, $20.——Yearlings—1. L. F. Allen, $15—2. Rowland Sotham, $10.——Bull Calves—1. W. H. Sotham, $10.

Cows.—1 and 2. W. H. Sotham, $25 snd $15—3. Rowland Sotham, $5.——Two years old—1. Allen Ayrault, $20—2 and 3. W. H. Sotham, $10 and $5.——Yearlings—1. A. Ayrault, $15—2 and 3. W. H. Sotham, $10 and $5.——Heifer Calves—1. A. Ayrault, $10—2. W. H. Sotham, $3 and Trans.

Best three Cows and three Heifers—W. H. Sotham, $25.

AYRSHIRES.

Bulls—Over three years old—1. E. P. Prentice, Albany, $25—2. W. Somerville, Ellicotville, $15.——Yearlings—1. E. P. Prentice, $15.——Bull Calves—1. W. A. Mills, Mt. Morris, $10—2. E. P. Prentice, $3 and Trans.

Cows.—Over three years old—1. W. A. Mills, $25—2 and 3. E. P. Prentice. $15 and $5.——Two years old—1. E. P. Prentice, $20.——Yearlings—1 and 2. E. P. Prentice, $15 and $10.——Heifer Calves—1. E. P. Prentice, $10.

NATIVE AND CROSS-BREEDS.

Cows.—1 and 2. John Brown, Auburn, $20 and $12—3. A. Ayrault, $1.——Two years old—1. Lyman Turner, Geneseo, $15—2. John Muir, Sr., Hamilton, $10—3. Jasper Barber, Avon, $3.——Yearlings—1. J. Freeman, Geneseo, $10—2. D. H. Albertson, Lima, $8—3. A. Ayrault, $3.——Heifer Calves—1. Donald McHardy, Rush, $3—2. J. Gould, Rochester, Trans.

To Miles Vernon, $15 and $10, for two grade cows.

OXEN AND STEERS.

Oxen.—Best yoke—1. W. Wadsworth, Geneseo, $20—2. E. Sheldon, $15—3. D. S. Baker, $5.——Three year old Steers—1. Jas. S. Wadsworth, Geneseo, $10—2. W. T. and N. Chappell, $5—3. D. S. Baker, $3.

Two year old Steers—1. Geo. Shaffer, Wheatland, $10—2. Daniel S. Baker, $8—3. J. S. Wadsworth, $3 and Trans.

To boys under 16, training yoke of steers—J. G. Ramsdell, Perinton, $3. and Trans.

Yearling Steers—1. John Muir, Sen. $8.—2. C. Sheldon, Conquest, $5—3. J. P. Hammond, Alexander, $3 and Trans.——To boys under 16, training steers—1. Vincent Lincoln, Alexander, Silver Medal—2. Emery Shepperson, East Hamilton, $3 and Trans.

MILCH COWS.

1. Jacob Gould, Rochester, D. McHardy, Rush, James Upton, Greece, and D. S. Earle, Salina, Diplomas.

FAT CATTLE.

Stall Fed—Single Ox—1. Hiram Sheldon, Sennett, $15—2. Geo. J. Pumpelly, Owego, $10.——Fat Cows—1. Robt. Fowler, Batavia, $15—2. Rich. Winn, Batavia, $10.——Pair Fat Steers—1. D. S. Baker, $15—2. Jas. Upton, $12—3. D. S. Baker, $8.——Single Steer—1. J. S. Wadsworth, $10—2. D. S. Baker, $6.

Special Premiums—L. W. Taylor, Lima, for thorough bred Durham Heifer, $25.——Geo. Shaffer, for three spayed heifers, $30.

Grass Fed—Single Ox—2. Freeman Nye, Darien, $6.——Pair Fat Steers—1. E. Sheldon, $12—2. Hiram Sheldon, $5.——Single Steer—Ira Rix, Alexander, $8.——Heifers—1. J. W. Hamlin, Aurora, $8—2. E. Sheldon, $3.

FAT SHEEP.

Long Wooled.—1 Wm. Swales, Sodus, $5—2. John McDonald, Herkimer, $3—3. Elias Barlow, Dutchess, Morrell's Shepherd.

Middle Wooled—Over two years old—1. Thos. Hosebury, $5—2. Marvin Hopkins, $3—3. Rich. Peck, Morrell's Shepherd.——Under two years—1. Marvin Hopkins, $5—2 and 3. Wm. S. Gypson, $3 and Morrell's Shepherd

FOREIGN CATTLE.

Short Horned Bulls—1. Hon. Adam Ferguson, Wood Hill, C. W., $15 and Diploma—2. Ralph Wade, Port Hope, C. W., $10.——Cows—1. Hon. Adam Ferguson, $15 and Diploma.

Devsns—Bulls—1. John Masson, Cobourg, C. W , $15 and Diploma—2. R. C. Gapper, Thornhill, C. W., $10.

To Roswell L. Colt, Patterson, N. J., for Hungarian cow and bull and Alderney Cow and Bull, $15 and Diploma, each.

HORSES.

For all work—Stallions.—1. F. Pester, Perinton, $25.—2. Caleb Gasper, Marcellus, $15.—3. M. G. Hungerford, Watertown, $5.—4. Robert Russell, Phelps, Youatt on the Horse.

Mares, with Colts—2. R. F. Pennel, Somerset, $15.—3. J. K. Ballantine, Chili, $5.—4. Stephen Cleveland, Penn-Yan, Youatt.

Special Premiums to Morgan Horses—1. C. W. Ingersoll, Lodi, $15.—2. S. A. Gilbert, East Hamilton, $10.—3. J. D. Remington, Sennett, $5.

For Draught—1. M. H. Van Inwagen, Fairville, $25.—2. Hiram Hosmer, Bennington, $15.—3. Jacob Brewer, Victor, $5.—4. Wm. Pierce, Henrietta, Youatt.

Wm. P. Nottingham, Palmyra, was awarded a certificate for "Young Sampson," he having heretofore received the first prize, as the best horse in this class.

Thorough-bred—Certificate to J. B. Burnett, Syracuse, for "Consternation," as the best, he having previously received the first prize—1. Samuel Baker, Edmonston, for "Pryor," $25.

Three years old—Stallions—1. W. P. Nottingham, $20—2. Andrew Hallenbeek, Caledonia, $10—3. Hiram Sayles, Scottsville, Youatt—4. Bernard Gilder, Steuben, Trans.——Mares—2. Wm. Reeves, Henrietta, $10—3. H. H. Kellogg, Clinton, Youatt—4. Stephen Mercer, Onondaga, Trans.

Two years old—Stallions—1. O. G. Pennell, Ridgeway, $15—2. Francis Winslow, Henrietta, Youatt—3. Lorenzo Norton, Darien, Trans.——Mares—1. Isaac M. Gillet, Clyde, $15.

Yearlings—Stallions—1. A. M. Starkweather, Eagle Harbor, $10—2. John Stryker, Chili, Youatt—3. J. C. Vail, Royalton, Trans.——Mares—1. J. M. Gillett, $10—2. C. W. Ingersoll, Youatt.

Matched Carriage Horses—1. G. C. Baker, Rochester, $15 and Diploma—2. J. Christopher, Buffalo, $10—3. John Butterfield, Utica, Youatt.

Matched Horses for Farm—1. Alfred Hall, Lyons, $15 and Diploma—2. Geo. Waffle, Gates, $10.

Geldings—E. R. Jerrold, Niagara Falls, $10 and Diploma—2. G. Warren, Half Moon, $8—3. H. F. Hotchkiss, $6—4. Daniel Waite, Darien, Youatt.

Mares—1. Geo. Gates, Mohawk, $10 and Diploma—2. W. W. Wadsworth, $8—3. C. W. Barker, Rochester, $6.

Foreign Horses—Best Stallion for all work, E. H. Hawks, Toronto, C. W., "Perfection," $10 and Diploma.——Best do. for draught, Joseph Graham, Port Hope, "Canadian Clyde," $10 and Diploma—Mrs. Jane Ward, Markham, C. W., was awarded Certificate for "Old Clyde," as the best horse in this class, he having had the first prize at a previous show.

SHEEP.

Long Wooled—Best buck over two years old—1. J. Mc Dohald, Warren, $10.—2. Richard Peck, Lima, $8.—3. Samuel Hecoek, Black Rock, $5.

Best buck two years or under—1. Willlams Rathbone, Springfield, $10.—2. James A. Jackson, Gilbertvsille, $8.—3. Richard Gypson, Westmoreland, $5.

Best pen 5 ewes, over two years—1. Wms. Rathhone, Springfield, $10.—2. Thos. Hosebury, Cambria, $8.—3. Wm. Swails, Sodus, $5.

Best pen 5 ewes two years or under—1. Wms. Rathbone, Springfield, 10.—2. J. C. Rathbone, Otsego co., $8.—3. Samuel Hecock, Black Rock, $5.

Best pen 5 buck lambs—1. Wms. Rathbone, Springfield, $8.—2. Williams Rathbone, Morrell's Am. Shep. and $3.

Elias Barlow, Lagrange, for three lots of very good ewes, three in each lot, special premium of $8.

Middle Wooled—Best buck over 2 years—1. L. G. Morris and Noel J. Becar, $10.—2. Z. B. Wakeman, Herkimer, $8.—3. Samuel Baker, Edmonston, $5.

Best buck 2 years or under—1. J. M. Sherwood, Auburn, $10.—2. Z. B. Wakeman, Herkimer, $8.—3. C. Parsons, Riga, $5

Best pen 5 ewes over two years, L. G Morris and Noel J. Becar, $10.—2. J. M. Sherwood, Auburn.—3. Z. B. Wakeman, $8.

Best pen 5 ewes 2 years or under—1. Ambrose Stevens, New-York, $10.—2 Z. B. Wakeman, $8.—3. Charles B. Meek, Canandaigua, $5.

Best pen 5 buck lambs—1. Ambrose Stevens, $8.—2. L. G. Morris and Noel J. Becar, Morrell's Amer. Shep. and $3.

Best pen 5 ewe lambs—L G. Morris and Noel J. Becar, $8—2. Z. B. Wakeman, Morrell's Amer. Shep. and $3.

Merinos—Second best buck over 2 years—David Hillman, Avon, $8.—3d best, O. Smith, $5.

Best buck 2 years or under—1. W. H. Cox, Stamford, $10—2. H. M. Dart, Harpersfield. $8.—3. Gen R. Harmon, Wheatland, $5.

To Reed Burrett, Burdett, for his imported French Merino Buck, a special premium of $10 is awarded

Best pen 5 ewes over 2 years—David Hall, Gaines, $10.—3d. David Hillman, Avon, $5.

Best pen 5 ewes 2 years or under, H. M. Dart, Harpersfield $10.

Best pen 5 buck lambs—1. W. A. Cook, Lima, $8.—2. Gen. R. Harmon, Wheatland, Morrell's Amer. Shep. and $3.

Best pen 5 ewe lambs—1. W. A. Cook, Lima, $8.—2. J. W. Hyde, Darien, Morrell's Amer. Shep. and $3.

Best samples of wool, not less than 10 fleeces, W. D. Dickinson, Ontario county, Silver Medal.

Saxons—Best buck over two years—1. Samuel H. Church, Vernon, $10.—2. A. H. McLean, Caledonia, $8.—J. Bettridge, Riga, $5.

Best buck two years or under—1 Samuel H. Church, Vernon, $10—2. Chas. Colt, Geneseo, $8—3. David J. Lee, Darien, $5.

Best five ewes, over two years old—1. S. H. Church, Vernon, $10—2. Chas. Colt, Geneseo, $8—3. A. H. McLean, Caledonia, $5

Best pen five ewes two years old or under—1. S. H. Church, Vernon, $10.

Best pen five buck lambs—1. S. H. Church, Vernon, $8

Best pen five ewe lambs—1. S. H. Church, $8.

Best sample of wool, not less than 10 fleeces—1. David J. Lee, Darien, Silver Medal.

Cross Bred Sheep—Best buck over two years—D. S. Curtis, Canaan, $10.

Best buck two years or under—1. Taylor Goodell, Alexander, $10—2. W. D. Dickinson, Victor, $8.

Best pen five ewes over two years—W. D. Dickinson, $10.

Best pen five ewes two years or under—1. David J. Lee, Darien, $10—2. W. D. Dickinson, $8.

Best pen five buck lambs—1. W. D. Dickinson, $8—2. Taylor Goodell, $3 and Morrell's Shepherd.

Best pen five ewe lambs—W. D. Dickinson, $8.

FOREIGN SHEEP.

Long Wooled—Best buck—R. C. Gapper, Thornhill, C W., $10.

Best pen five ewes—William Miller, Pickering, C. W , $10.

Middle Wooled—Best buck—Joseph Pierce, Whitby, C. W., $10

Best pen five ewes—Ralph Wade, Cobourg, C. W., $10.

Special—Joseph Pierce, a vol. of Transactions and $5 for a pen of middle wooled ewes. John Cade, Whitby, C. W., a vol. of Trans. and $5 for a pen of middle wooled ewes. William Miller, Pickering, C. W., a vol. Trans. for 1 buck. Ralph Wade, Cobourg, C. W., a vol. Trans for 1 buck.

Merinos—Best buck—Jonathan S. Wilmarth, Addison, Vermont, $10.

Saxons—Best buck—S. C. Scovil, Salisbury, Ct , $10.

SWINE

Best boar over two years old—1. Geo. Shaffer, Wheatland, $10—2 Wm H. Davies, Black Lake. $5.

Best boar one year old, L. Vanderwenter, Benton, $10—2 Truman Bowen, Chili, $5.

Best boar six months, and under one year—1. L. G. Morris, Fordham, $8—2. L. D Hecock, Alexander, $3.

Best breeding sow over two years—1. Elisha Beebe, Henrietta, Berkshire and Leicester, $10—2. Truman Bowen, Chili, Byfield, $5

Best breeding sow one year old—1. Geo. Shaffer, Wheatland, Leicester, $10—2. Orrin Lathrop, Darien, Leicester, $5.

Best sow six months, and under one year—1. N. Haywood & Son, Brighton, Leicester and Byfield, $8—2. Mattathias Garratt, Gates, Leicester and Byfield, $3.

Best lot of pigs not less than five, under 10 months—1. Samuel S. Wood, of Rochester, $10—2. Elisha Beebe, Henrietta, $5.

POULTRY.

Best lot of Dorkings, not less than three, one cock and two hens—Lewis F. Allen, Black Rock, $3.

Best lot of Polands not less than three—F. W. Collins, East Bloomfield, $3.

Best lot of Malay or Chittegong fowls, not less than three—A. A. Hudson, Syracuse, $3.

Best lot of Bantams not less than three—Charles Marble, Buffalo, $3.

Best lot of game not less than three—S. B. Colt, Irondequoit, $3.

Best lot of turkeys not less than three—S. B. Colt, $3.

Best lot of Muscovy ducks not less than three—George Cummings, Rochester, $3.

Best lot of small ducks not less than three—John N. Smith, Attica, $3.

Best lot of Guinea hens not less than six—E. S. Treat, Rochester, $3.

Best pair large geese, Lewis F. Allen, Black Rock, $3.

Best lot poultry owned by exhibitor—F. W. Collins, East Bloomfield, $10.

Best exhibition of pigeons—Miss Mary Mines, Rochester, $3.

Best lot of wild turkeys, L. K. Haddock, Buffalo, $3.

PLOWING MATCH.

1. Alexander Rumsey, Ogden, Monroe, co; Curtis plow; Wm. Middleton plowman, $10.—2. J. F. Plato, Batavia; Curtis plow; A. H. Plato Plowman, $8.—3. D. B. Westfall, Lyons, Wayne co.; Wisconsin plow; D. B. Westfall plowman, $5.—4. J. F. Plato, Batavia; Curtis plow; J. F. Plato plowman, Transactions.

Of boys under 18 years of age, but one entry was made ; the work was well performed, and complied very closely with the rules of the Society. The first premium is awarded to G. H. Goodhue, Wheatland, $10.

FARM IMPLEMENTS.

Best farm wagon, T. S. Eastman, Deerfield, $5.

Best harrow, Rapalje & Co , Rochester, $3.

Best corn cultivator, made entirely of iron, Eddy & Co , Union Village, $3.

Best fanning mill, Grant's patent, Rapalje & Co., Rochester, $5

Best corn stalk cutter, Densmore's Patent, Brown & Mills, Mt. Morris, $5.

Best straw cutter, Ruggles, Nourse & Co.. Rapalje & Co., Rochester, $3.

Best corn and cob crusher, by horse power, C. B. Tuttle, Rochester, $5

Best clover machine, T. D. Burrall, Geneva, $5.

Best ox cart, T. S. Eastman, Deerfield, $3.

Best horse rake, Jared Clark, Unadilla Works, Otsego, $2.

Best ox yoke, J. P. Fogg & Bro., Rochester, $2.

Best roller for general use, Rapulje & Co , Rochester, $5.

Best clod crusher and roller combined, John Walker, Chili, $5.

Mr. Jessup, of Lyons, vol. of Trans. for an improved hay and stalk cutter.

Z. W. Smith, Honeyoye Falls, vol. Trans. for Swift's patent improved horse rake.

Best wagon harness, G. S. Jennings, $2.

Best axes, D R Barton, Rochester, $2.

2d do. L. & J. White, Buffalo, small Silver Medal.

Best grass scythe, D. J. Millard, Sauquoit, Oneida co., $2.

Best grain scythe, North Wayne Company, Rapalje & Co., $2.

Hay knife, D. J. Millard, vol Trans.

Bramble scythe, D. J. Millard, Diploma.

Bush hook, L & J. White, vol. Trans.

Scythes attached to snaths, Draper & Clark, Diploma.

Best grain cradle, Daniel Duesler, $2.

Grain cradle by boy, 12 years of age, Oliver Swift, small Silver Medal.

Best lever cheese press, F. S. Clench, vol. Trans.

Best churn, N. B. Clark, $2.

Best hay forks, D. J. Millard, $2.

Best straw forks, W. Brand & Co., $2.

Best manure forks, D. R. Barton, $2.

Best hand rakes, C. F. Crossman, $2.

Best hay racks, Rapalje & Co., $2.

Best doz. twine brooms, C. F. Crossman, $3.

Best double carriage harness, J. B. Slasson, Albany, $2.

Best single harness, L. J. Lloyd, Albany, Diploma.

Best washing machine, Joseph Hall, vol. Trans.

Best hoes, R. & E. Clarke & Co., Diploma.

Axe helves and scythe snath, Daniel Densler, vol. Trans.

Weight power churn, W. G. Simpson, Diploma.

Best horse power for general purposes, on the sweep or lever principle, H. E. Smith, Fowlerville, $5 and Diploma.

Best horse power on railroad or endless chain principle, Emery & Co. Albany, $5 and Diploma.

Best iron horse power, H. E. Smith, Fowlerville, Livingston, co., $5 and Dip.

Best thrasher to be used with horse or steam power, Eddy and Co., Greenwich, Washington, co , $5 and Dip.

Best grain drill, with apparatus for depositing manure, Pierpont Seymour, East Bloomfield, Diploma.

Best wheat cultivator—"Rogers' wheel Cultivator," Chappell, Whitesides & Barrett, Brockport, Dip.

Best broadcast sower, Pierpont Seymour, East Bloomfield, Dip.

MACHINERY.

Steam engine on wheels, for farm use, 1st premium, Hoard and Brudford, Watertown, Medal and $25. 2d. Chas. Ross, Roch. $20.

Conical Burr stone grist mill, Charles Ross, Rochester, Dip.

Cast iron wheel cultivator, new invention, Silver Medal, D. Hinkston, Clarkson, (made by Chappell, Whitesides & Barrett.)

Ketchum's mowing machine, W. F. Ketchum, Buffalo, Certificate.

Portable cider mill press, A. & S. D. Freer, Cortlandville, $3.

Gang of plows, I. D. Smith, Shelby, Orleans co., commended.

Burr stone flouring mill, A. S. Sterling & Co , Buffalo, S. Medal.

Improved horse hoe cultivator and shovel plow combined, Hiram Wright, Morganville, Genesee co., $3.

Steam drier for grain, flour, meal and lumber, H. G. Bulkley, Kalamazoo, Michigan, Dip. and Silver Medal.

Machine for breaking and cleaning flax and hemp, F. A. Clements, Springfield, Massachusetts, Dip. and S. Medal.

Enos Boughton, East Bloomfield, thistle digger and cultivator, a simple and effective implement, Silver Medal.

Rapalje & Co., Wheeler's combined thrasher and cleaner, a new invention and good article, $3.

Rapalje & Co., Segner & Shipton's patent seed drill, $3.

Samuel Davison, Greece, single plow seed sower and coverer, and gang plow seed sower and coverer, Trans.

REAPING MACHINES.

These machines are very important to the farmer, but the judges have been unable to decide fully on the merits of any one machine over another, having no facilities for testing the practicability of the machines.

Mr. B. Densmore has an improvement over many others in an iron tooth rake passing the grain off at one side, by the power of the machine.

Mr. A. Palmer has also a self-operating rake on his machine, which is very ingenious and simple.

Mr. T. R. Hussey's machine is got up in better style and material than any other on exhibition.

McCormick's reaper was presented for exhibition merely. This machine was awarded the Great Medal at the exhibition in London.

The machines on exhibition are the following—

Hussey's reaper by Quick and Hall.

Self raking reaper, by Anson Palmer.

New-York reaper, Seymour and Morgan.

A convertible reaper, T. D. Burrall.

Densmore's reaping machine.

The executive committee decided on examining the report of the judges, that no premium could be awarded to the reapers until a trial was had, to enable the judges to decide as to the qualities of the different machines in operation.

DAIRY.

Butter—Best lot, quality as well as quantity considered, made from five cows in 30 consecutive days, 25 lbs. of the butter exhibited, Stepto Woodruff, Almond, Allegany county, $25.

Best 25 lbs. butter made in June, G. C. Howard, Ogden, $10—2. F. Bishop, Geneseo, $5—3. L. L. French, Warren, Herkimer, Trans.

Best 50 lbs. made at any time, Amos Goulding, Le Ray, Jefferson county, $15—2. Wm. Shepard, Irondequoit, $10—3. Marcus Bickford, Victor, $5—4. G. W. Goodhue, Wheatland, Trans.

Girls under 21 years of age—Best lot of butter, not less than 10 pounds, made at any time, Emma Van Vorhees, Mendon, Silver Milk Cup—2, Lois Wells, Wheatland, Monroe county, Pair Butter Knives—3. Sarah Bingham, Ogden, Set Tea Spoons.

Cheese one year old and over—Best 10 lbs. cheese, Guy Reed, Richmond, Ontario county, $20—2. E. F. Carter, Le Ray, Jefferson co., $10—3. C. W. Eells, Westmoreland, Oneida co., $5—4. W. P. Ottley, Phelps, Trans.

Best six dairies. from a county, not less than three cheeses from each—Moses Eames, Rutland, Jefferson county, $30. Gardner Towne, Rutland, E. F., Carter, Le Ray, George Webb, Pamela, M. Bryant, Watertown, P. Hardy, Le Roy—Dairymen.

Less than one year old—Best 100 lbs. George Hammill, Rome, Oneida county, $15—2. Charles Benjamin, Rushford, Allegany county, $10—3. Almon Benjamin, Centreville, Allegany, $5—4. E. & H. Colvin, Hamburg, Erie, Trans.

Bees---Robbing.

In September and October bees are very apt to rob each other, and many families are destroyed in this way. The remedy is to lower the hives down and give but one passage way, and that not over two inches long for the strongest families, and to be contracted according to the strength of families down to a compass that will only admit a few bees to pass in and out at the same time. This is the *preventive* remedy. The populous hives, well filled with honey will require but little protection, but those hives that have been left weak by too much swarming, or from any other cause, are in danger. Whenever an unusual bustle is noticed around a hive, with dead bees on the ground in front, and the occupants of the hive around in squads on the alighting board, with stronger bees held as prisoners, you may know that there is danger. Numbers of bees will be slowly flying around on a level with the entrance, as if seeking for an unguarded passage, making a louder noise than usual. At twilight, when all other hives are quiet, bees will be seen to leave a robbed hive and fly away to their houses. This is the most sure test. In such a case, close the hive entirely for a day, but give the bees air. You may then open the passage way a very little, so as to allow a single bee to pass. Leave it thus for a day or two when it may be enlarged if no further trouble is apprehended. T. B. Miner. *Clinton, Oneida county, N. Y.*

◆

American Plows.

Eds. Cultivator—Gentlemen: In one of the interesting letters from London, of Mr. Johnson, Sec. of the N. Y. State Ag. Society, published in the September number of the Cultivator, we find the following paragraphs:

> "I became acquainted at our trial of plows [in the neighborhood of London] with Count de Gourcy, a distinguished French gentleman, who is one of the most intelligent agriculturist I ever met with.
>
> "He spoke in very high terms of our plows. He had seen three of them in operation in France, which had been sent over by some American gentleman who had purchased Rambouillet sheep; but his name he did not recollect. They were, he said, so light, so simple in their construction, so easily operated by the peasantry of France, and so cheap, that he preferred them altogether to any other plows. He expressed himself highly gratified with the performance of our plows at the trial—said they had accomplished all that was desired."

The gentleman referred to above, and of whose name Col. Johnson was ignorant, is John A. Taintor, Esq., of Hartford, Conn., to whom the breeders of the United States are greatly indebted, not only for his importation of Rambouillet sheep, but of very superior sheep from other distinguished flocks in France and Germany. The plows that Count de Gourcy so highly commends, were of our manufacture, and selected from our establishment by Mr. Taintor, about two years ago. We have repeatedly sent plows and other agricultural implements to Europe, and all have been highly approved of there—even in Old England herself. We mention this merely in defence of the sneers against American plows &c., which from the time they appeared at the Crystal Palace, up to the day of trial, it pleased the English press to throw out against them. After the trial the English editors changed their tone, and acknowledged the superiority of American implements in the handsomest manner. This was very manly on their part; and as interested parties, and in common with our fellow exhibitors, we feel quite obliged for their *amende honorable*.

Had we supposed that a "trial of plows" was to be made, we should have sent some to the Crystal Palace fitted for it; as it was, being completely unprepared for this, our plows worked to great disadvantage. Very resp'y. yours, A. B. Allen & Co. *New-York, Sept.* 15.

◆

Special Manures for Potatoes.

Eds. Cultivator—I suppose all things concerning the potato, its culture, productiveness, &c., are interesting, to a portion at least, of your patrons. And it is upon that supposition that I venture to lay before them an experiment which I have been trying the past summer. The soil is a light loam; the kind of potatoe, White Mercer; the time of planting, the second week in May; the manures used, Patagonia guano, "prepared guano," by Kentish & Co., of New-York, and bones ground and dissolved with sulphuric acid, (as per Prof. Norton's recommendation in the Cultivator.) One row was planted without any manure, bone being on either side, then the different kinds of guano, alternately, with the bone. The quantity of Patagonia guano per acre, used, 600 lbs.; of prepared do., 800 lbs.; of bone, 8 bushels. No other manure was used. The land planted was quite reduced. The result was as follows: the weights of the *merchantable*, and of the small potatoes, are given separately, with the total weight, the cost, &c.

	lbs. oz. large.	lbs. oz. small.	lbs. oz. total.	Cost pr. acre.
3 hills without any manure,.....	1 0	0 8	1 8	$0 00
do bone by the side, ...	2 8	0 8	3 0	8 00
Pat. guano, 6 hills, ...	4 4	1 8	5 12	12 00
Prepared guano, 6 hills, ...	3 0	2 0	5 0	9 50
Bone by the side, do	5 8	3 0	8 8	8 00

By the above table, it may readily be seen which manure causes the greatest product, and which furnishes that unanswerable argument, *cheapness*, which none can resist. The bone prepared for use, costs in the above but two-thirds as much as the guano, while the product is nearly three-fourths greater. The bone was ground in this place, of which about one and a half bushels were put in a half-hogshead; then one-third, (by weight,) as much acid as bone, diluted with twice its bulk of water. Stir well together, and in two or three days you have as active a manure as can be produced. There was a surprising luxuriance in the tops of the rows where the bone was put, remarked by all who saw them.

I think it excels as a top-dressing. From the slight opportunity which I have had of judging, I should say $5 per acre would double the crop of grass on the light land which abounds in this vicinity, and greatly improve its quality. It may seem to some like a great undertaking, to purchase the acid at some distant place, transport it home, and use it. "*The strong stuff*," as some say, "I should be afraid to use it?" Well, now it is all imaginative difficulty. Just try it friends, and give us the result. S. R. H. *Hadlyme, Sept.* 5, 1851.

Agricultural Exhibitions.

Addison County Vermont.—The show of this society took place at Middlebury, on the 25th of September. The number of animals exhibited was less than usual, in consequence of the weather being rainy the day preceding; there was still, however, quite a large collection of horses, cattle and sheep. Of the horses, most of the best specimens were the progeny of the well-known horse Black-Hawk, from six months to four years old. Some of these were very fine. A three-year-old colt, the property of Mr. Johnson, of Middlebury, is a beautiful animal.

There was a large collection of working oxen and steers, some of which made a good appearance; but most of the cattle were in rather low condition, in consequence of the pastures being parched with drouth—there having been but a trifling amount of rain since July. We are sorry to see that the farmers of this section, in general, bestow but little attention to their cattle; at least their cattle do not indicate the exercise of much skill in breeding—being too commonly, coase, hard-fleshed and large boned. It is to be hoped, however, that the laudible efforts now being made by a few individuals, will in a few years correct this evil.

The sheep were mostly Merinos. They comprised specimens of the French sheep imported by Mr. Jewett, the Silesian, imported by Messrs. Sandford & Co., and the descendants of the old Spanish stock. Of the latter, several lots offered by Mr. Hammond of Middlebury, were of superior character; and in symmetry, uniformity of appearance, and quality of wool, do much credit to Mr. H. as a breeder.

There were a few sheep shown under the name of Leicesters, but in general, they were by no means well-bred. The varieties of English sheep—as Leicesters and South Downs—would probably be profitable in this section for mutton, if well selected and well managed; but those who intend going into this business, would find their account in procuring the right kind of stock to begin with.

The show of fruits and vegetables was not large. There were some very handsome apples, showing that this fruit may be produced here in great perfection. The farmers would do well to turn their attention more to the business, and raise new orchards to take the place of those which are becoming old and unproductive. The collection of apples offered by Mr. Albert Chapman, of Middlebury, would have been considered fine at any exhibition.

Bucks County, Pa.—This society held its show and fair at Newtown, on the first of October. The gathering of the people on the occasion was one of the largest we have have ever seen at an exhibition of a county society, being estimated at 12,000 to 15,000. This society has established itself on an excellent basis; we believe this was its eight annual meeting, and the demonstration, both in regard to the spirit prevailing among the people, and the character of the exhibition itself, was such as reflected credit on the association and the county. The officers and members of the society may congratulate themselves on the flattering success which has at last crowned their patriotic labors. The society has purchased a lot of land, of about four acres, enclosed it with a suitable fence, divided it into proper divisions, and erected proper buildings, sheds, pens, &c., and have procured canvass, tents, and provided other necessary requisites for the exhibitions. We were much pleased with all these arrangements, which were evidently designed with a correct understanding of the objects to be accomplished.

There was a very respectable display of agricultural implements, most of which were manufactured in the county. We saw plows of good workmanship, made by Geo. Buckman, Upper-Makefield, and others by A. Blaker, Newtown. There were also on the ground, drill, reaping, and threshing machines, and most other articles used in farm labor.

Horses, cattle, and sheep were quite numerous. Owing to the very severe drouth which has prevailed in this section, (there having been but little rain from June to October,) live stock in general is much lower in condition than usual. Some good cows, and other cattle, were offered by Messrs. J. C. and Adrian Cornell, Longley, and others; and some mutton sheep, mostly of mixed blood, by the same. Among the latter we noticed some a cross of the African broadtailed breed, offered by Wm. W. Carr. There was a large show of poultry—comprising geese, ducks, turkies, and most of the varieties of fowls.

The fruit and vegetable departments were quite as good as could have been expected, considering the drouth, and the fact, also, that there is almost an entire failure of apples and pears throughout this section of country.

The manufacturing departments appeared to contain many articles worthy of notice, but from the great pressure of the crowd, it was impossible to examine them. Our attention was attracted by a beautiful specimen of raised worsted work (a chair), and a handsome painting (village at sunset), by Misses Olivia and Margaret Staveley, daughters of Wm. Staveley, Esq., of Partridge-Hall Farm.

We shall give some notes in regard to the farming of Bucks county, in a future number.

Philadelphia County, Pa.—This "ancient and honorable" association held its exhibition for the present year on the 8th and 9th of October. To this society belongs the proud distinction of being the first of the kind organized in America—dating from 1785. Among its founders we recognize the names of many of the prominent men of the revolution—as Timothy Pickering, Robert Morris, John Jay, Richard Peters, Benj. Rush; and among its honorary members and correspondents were Arthur Young, Sir John Sinclair, and other celebrated British writers on agriculture of that period. In these days when the agricultural interest has attained an ascendant position in popular estimation, and agricultural societies have become common in all parts of our country, we seldom realize how much we are indebted to the example and influence of these first laborers in the cause. It is no flattery to say that the early "Memoirs of the Philadelphia Society for Promoting Agriculture," comprise many papers of great value. They contain the germs of much of the improvement in agriculture which it is our happiness to enjoy. In this view, perhaps no society in existence is entitled to higher credit for the benefits it has conferred on the public.

The exhibition of the society on the present occasion, when considered in reference to the unfavorable character of the season, the scarcity of grass, and the suffering of many crops from drouth, was highly creditable. The number of animals was larger, as we were informed, than at most of the previous exhibitions. We cannot speak in high terms of the horses, in the aggregate, though there were a few which appeared well. Of these, a stallion, 6 years old, owned by DANIEL STOUT, Cheltenham township, Montgomery county, was well formed for strength and endurance. His sire was the imported Norman horse owned by EDWARD HARRIS, Esq., of Moorestown, N. J. The cattle comprised specimens of the Short-horns, Devons, Alderneys, and various mixed breeds. JAS. GOWEN, Esq., the President of the Society, exhibited several fine Short-horn cows, heifers, and bulls; others of the same breed, offered by Messrs. CADWALLADER, NEWBOLD, BARTON, and BLIGHT, deserve notice. Some of the Devons by Messrs. SHERIDAN, SMITH, and others, were fine. There were several yoke of superior working oxen, bred in Connecticut, offered by Mr. GOWEN, and others whose names we did not learn. The sheep were of the English varieties. AARON CLEMENT, Esq., exhibited several fine specimens of South-Downs, Leicesters, and mixed breeds. Some good Cotswolds, or improved Oxfordshires, were exhibited by BENJ. WOOD, of Sugartown, Chester county. Some of them were from the flock of Col. WARE, of virginia. The show of swine was large, and comprised good specimens of Leicester or Dutchess county stock, offered by Mr. WILKINSON, and others, of the Berkshire, of which a very handsome specimen was offered by Mr. GOWEN, and an imported white Berkshire boar offered by JAMES DEVEREAUX, of Germantown. There was a great show of poultry, showing that the sober citizens of the Quaker City and its suburbs are not entirely free from the epidemic which has affected other parts of the country. Though a large proportion of the fowls were of the *Shank-high* tribe, there were some good ones. Deserving mention were those under the name of Gold-spangled, or Pheasant fowls, (Bolton bays, or Golden-Hamburghs,) offered by HENRY DITMAN. They were of almost unexceptionable form, but had not the exact markings required by the standard for that variety. The white fowls offered by Rev. Mr. BUMSTEAD, of Roxborough, were good.

The specimens of fruits, vegetables, grain, and other seeds, were numerous, and in general of superior quality—much superior in all respects than could have been expected under the unexampled drouth. The specimens of farm products from the farm of Mr. GEO. BLIGHT attracted much notice; as did those offered by Mr. SHERIDAN.

A handsome display of implements was made by Messrs. PROUTY & BARRETT, and a smaller but good assortment, by Mr. C. B. RODGERS.

WASHINGTON COUNTY, N. Y.—We have been furnished by a correspondent with the following account of the exhibition of this society:

The eleventh annual Fair and Cattle Show of the Washington county Agricultural Society, was held at South Hartford on the 17th and 18th of September. The farmers of this section have suffered for a long time from excessive drouth, and this circumstance was unpropitious for the show; but notwithstanding this discouragement the farmers with commendable public spirit brought out their stock, and made the show such an one as was creditable to the husbandmen of the county, and one that fully met the expectations of the great number which the increasing interest in these exhibitions called together. The show of cattle was good, especially of working oxen—about thirty yoke being exhibited—some of great excellence. In sheep the show was remarkably good. The exhibition of horses was very good, much the best ever had in the county; many animals of superior excellence. The amount of fruit exhibited was not large, although there were some specimens of fine quality.

The ladies' department, containing many articles of rare beauty, was peculiarly interesting and excited much attention. Much credit is due the ladies for the fine taste displayed in adorning the tent with evergreens and flowers.

The plowing took place the second day. The successful competitor used a plow manufactured by Eddy & Co., Union Village.

An address, which highly interested the large audience, was delivered by Prof. NORTON of Yale College. We have reason to believe that this address will do much towards removing existing objections against connecting science with practical agriculture, and will tend to create a laudable rivalry among farmers, and awaken a spirit of investigation and inquiry, for which it was eminently calculated.

It is with great satisfaction that we find our fairs every year becoming more interesting. This show, in most departments, was the best that has been held in the county, and furnishes ample evidence that farmers are awake to their true interest. S. *South Hartford, Sept.* 22, 1851.

BERKSHIRE, MASS.—This county has two Agricultural Societies—the old Berkshire, proper, and the Housatonic. Both are well sustained, and for several years, each has had its annual exhibitiuns. The show of the Housatonic Society was held the present season at Great Barrington on the 24th and 25th of September; and that of the Berkshire Society at Pittsfield on the 1st and 2d of October. This is an old society, and it is entitled to the credit of holding the first agricultural exhibition in this country, which took place at Pittsfield in 1810. The interest then originated has been well sustained, and the prosperity of the county of Berkshire, is due, in a great measure, to the influence exerted by her agricultural societies.

Hampden County, Mass.—Show at Springfield, Oct. 1st and 2d. The Republican says: "In speaking of the Fair, as a whole, we but echo the opinion of all whom we have heard express an opinion, that it has never been equalled in the county. We remember nothing in the exhibition that was not above mediocrity, and much, very much, we may certainly say, of surpassing excellence." The address of Prof. Norton, is spoken of in terms of high commendation.

Vermont State Fair.—The first effort at a State Fair in Vermont was made on the 10th and 11th of September last, at Middlebury. We regret that we had not the opportunity of attending. The weather was most oppressively hot; but a collection of people estimated at 12,000, was on the ground, and the number of animals and articles exhibited was as large as the most sanguine anticipated. It is stated that there were in all, 400 horses exhibited, "comprising many of the superior animals known in the state;" 300 meat cattle; 1,100 sheep; 50 lots poultry; 1,200 "inanimate objects." The horses and sheep formed the chief attraction. The celebrated horse Black Hawk, with upwards of sixty of his progeny, from the age of six years down to three months, passed in regular procession around the circle devoted to the show of horses. There were other fine specimens of the Morgan stock, particularly the noted Green Mountain Morgan, owned by Silas Hale, Royalton, Mass. The sheep comprised specimens of all sub-varieties of the Merino—French, Silesian, Saxon, and the true Spanish.

At the close of the exhibition a regular organization of a State Agricultural Society was effected, and the following officers duly elected for the ensuing year:

Frederick Holbrook, Brattleboro', President; Wm. Nash, Joseph W. Colburn, Harry Bradley, Erastus Fairbanks, Vice-Presidents; J. A. Beckwith, of Addison, Cor. Secretary; C. S. Noyes, Recording Secretary; John Spaulding, Treasurer; J. S. Pettibone, J. K. Parish, Geo. T. Hodges, P. Baxter, L. Brainard, Additional Directors. A meeting of the Directors was held at Burlington on the 25th of Sept., at which it was resolved to petition the legislature at the coming session, for an act of incorporation.

Ohio State Fair.—The second State Fair for Ohio, took place at Columbus on the 24th to 26th September. The number of people who attended, is thought to have been nearly 100,000. The character of the exhibition appears to have been creditable to the state, and satisfactory to the members of the society and the public. We presume the result will be salutary in reference to the interests of the citizens of the Buckeye State.

Strength of a Bull.—The *Massachusetts Plowman* states that a bull, three years old, drew a cart loaded, up a hill, with three tons of stone, and fifteen men on the top of it—the whole equal to *four tons two hundred and fifty pounds.* It was a load on which the working oxen had been tried, which were exhibited at the show of the Essex county Ag. Society. The bull was hitched to the end of the tongue.

Sales of Stock at the State Fair.

One of the most important advantages afforded by agricultural exhibitions, is the opportunity which they present of purchasing such animals and articles as persons are in want of, who attend these gatherings. This feature of the New-York State Fairs has done much to keep up their interest, and to bring annually together large numbers of choice animals. The sales of stock and implements which have taken place at these exhibitions for the last four or five years, have been very large, and at the late show at Rochester were probably equal to any former occasion. We notice some of the sales of stock which have come to our knowledge—it being a matter of interest to the public to learn the whereabouts of fine animals.

The Short-horn bull Halton, exhibited by Hon. Adam Fergusson, of Canada, was purchased by S. P. Chapman, Esq., of Clockville, Madison county, N. Y. We may mention in this connection that Mr. C. has sold a yearling heifer and a bull calf to Mr. E. G. Alden, of Boston—the animals being destined for a farm purchased by Mr. A. in Madison county. The price paid for the two, was $275.

The fine (red) Short-horn cow exhibited by Mr. Fergusson, was purchased by N. J. Becar, Esq., of Smithtown, Long Island.

The fine Devon cow (sister to the noted bull Major) exhibited by Mr. Gapper, of Canada, has, we are informed, gone into the possession of Messrs. W. P. and C. S. Wainwright, of Rhinebeck, Dutchess county; and Messrs. W.'s beautiful Devon bull, which received the first premium, was disposed of to R. H. Van Rensselaer, Esq., of Morris, Otsego county.

Mr. E. P. Beck, of Sheldon, Wyoming county, sold to Mr. Freeman, of Port Dover, C. W., two fine yearling Devon heifers, at $100 each.

Mr. E. P. Prentice, of Albany, sold two Ayrshire heifers to Mr. Penny, of Newark, Ohio. The superior Ayrshire cow, which was exhibited by Mr. W. A. Mills, of Mt. Morris, which took the first premium, was purchased by Mr. Prentice.

We understand that extensive sales of sheep of various breeds, and also of horses, took place, but we have not learned particulars.

Hereford Cattle.—We are requested by Mr. Sotham, to copy the following from an article in the *Mark Lane Express* of September 15th, under the head of "Meeting of the Royal Agricultural Society."

"The prize Hereford bull, shown by the Right Hon. Lord Berwick, of Cronk-hill, near Shrewsbury, aged four and a half years, was unquestionably the best bull in the yard. He has a large square frame, of great depth, well covered with flesh of good quality; he has a good skin, is short legged, girts nine feet, and is six feet in length. Altogether he is a large and compact animal. The second prize Bull, belonging to Mr. Price, was also a remarkable animal, but not to be compared to Lord Berwick's bull. Although but three years and twenty days old, he girted eight feet seven inches, whilst the prize Short-horn Bull, a much higher, and apparently a much larger animal, girted two inches less, although three months older. The other classes of Herefords contained some admirable specimens, and although not so numerously exhibited as the Short-horns, yet we think, as a class, they stood unequalled."

Trees for Waste Lands.

Eds. Cultivator—On most farms there is generally more or less waste lands, such as steep hill sides, gravelly knolls, &c. These lands, in their barren state, always give a cold and forbidding appearance, and often mar the beauty of the farm. To improve these lands in the shortest way, and at the least expense, is the next thing. Probably many farmers will have a variety of ways of doing it, and if they bring about the desired result, all very well. But the majority of farmers will content themselves to do just nothing at all. Yet there are some who are inclined to improve such lands, when they are convinced of its importance, and know how it can be done. The practice of plowing and manuring such lands is fraught with many evils, as in plowing knolls and side-hills the wash of rains is so great as to keep the land in sterility, besides the difficulty in plowing and cultivating it to any advantage.

Now I think the best way to manage such lands, is to let them grow up to timber. On some lands of this kind young sprouts will come in naturally, which, if taken care of, and left undisturbed by the plow, or by cattle, will soon make young trees. On other lands it would be necessary to plant acorns and chestnuts, or else set out the young trees; and these trees, with proper care, would in a few years make a handsome grove. It is not intended to make a forest on these lands, but more to leave them scattering, like the "oak openings" of the west, free, of course, from all underbrush.

When these trees get sufficient size to shade the ground well, the grass will begin to come in, and in a few years a clean grass sward will be made. We are satisfied that what these lands want most is *protection* from the scorching rays of the sun, and the washing of rains. In proof of this, any farmer must have noticed how soon a grass sward will form under a tree where it stands on a barren knoll. Probably the small fibrous roots of the tree help to make the sward, and then the cattle repose under its shade, and add their excrements to the soil; so by all these agents combined, a good soil is formed. These ranges of side hills and knolls, after the trees get grown to sufficient size, may be kept in permanent pasture, both for sheep and cattle. Thus a farmer, after a few years, would have the satisfaction of seeing his former barren hill sides converted into handsome groves and belts of timber, adding much to the beauty of the farm and landscape.

Often, in the line of old fences, the hickory tree will come up, and if protected a little, will in a few years make a fine tree. I think this tree decidedly one of the finest forest trees in this country, as its leaves are large, it affords a good shade, and a fine protection from the sun. L. Durand. *Derby, Conn., August* 30, 1851.

Kerr's Poultry Book.

Eds. Cultivator—In a very well written review of Dr. Kerr's edition of Dixon on Poultry, in your last paper, the reviewer alludes somewhat uncharitably to certain objectionable passages in the letters of one of Dr. K.'s correspondents. As I have good reason to know that at least one of those letters was not designed for publication at all, and none of them intended by the writer to be published "word for word," without curtailment or alteration, you will permit me to offer this in palliation. Expressions that are not to be tolerated in print, may be almost excusable in private confab. or correspondence between cronies.

There is one point, however, on which I must join issue with Observer, and the very respectable rhyming worthy whom he quotes to prove that "want of decency is want of sense." The poet needed a rhyme, and so he wrote "want of sense," carelessly, of course, for he surely had too correct an appreciation of his own powers, to charge himself seriously with lack of brains. For truth or meaning, any other expression would have answered as well, but it would not *jingle*. A greater bard, who lived on the banks of Avon nearly 300 years ago, and whom a young lady of my acquaintance very admiringly pronounced "*a smart man*," used a great many "immodest words," and so did Etherge and Rochester, and Buckingham, and many of the famous wits of by-gone days, and yet no one will accuse them of want of sense. The condemnation is altogether too sweeping in its character to be just. A decided want of decency is certainly very censurable, but not amenable to the charge which Mr. Observer endorses by quoting. Observee. *Northumberland, Pa., Sept.* 8, 1851.

Cross-breeding Animals.

A pamphlet has lately been published in Scotland on the effects of cross-breeding, by Alexander Harvey, M. D. We have not seen the work, but have seen frequent notices and extracts from it in English and Scottish journals, and in the *Quarterly Journal of Agriculture*, there is a review of it by the editor, Mr. Stephens.

Dr. Harvey propounds a new theory in relation to some ideas connected with cross-breeding, which are thus stated:

> "There is a circumstance connected with the process of breeding in the higher classes of animals which seems to me to merit a larger share, than it has yet received, of the attention of the agricultural body. It is this,—that a male animal that has once had fruitful connexion with a female, may so influence her future offspring begotten by *other* males, as to a greater or less extent *engraft* upon them his *own distinctive features*—his influence thus reaching to the subsequent progeny, in whose conception he himself has no share, and his image and superscription being, so to speak, more or less inscribed upon them."

He proceeds to cite several instances of the characters of the male by which a female first conceived, being visible in offspring afterwards produced, from other males. One of these is the case of the Earl of Morton's mare, which has been often mentioned. The mare was first covered by a quagga, an animal of the assinine family, with stripes like those of a zebra. She produced a hybrid, which had the marks of its sire, as might have been expected. But a singular result followed. The mare afterwards produced three foals in successive years, by an Arabian horse, all of which had stripes like those of the hybrid!

Dr. H. has gathered similar facts in regard to sheep and other animals, and he thinks there are analogous phenomena in the human species.

Mr. Stephens. (the reviewer of Dr. H.,) sums up his own views in regard to Dr. Harvey's theory in a few words, and in the following conclusion we think he will be sustained by general observation:

"From the time we read Dr. Harvey's first paper, we doubted altogether the correctness of this explanation. We thought then, as we still think, that the resemblance of the subsequent offspring to the first male by whom the mother was impregnated, was to be explained upon the principle of *mental influence*, and not upon *inocculation* of the mother's blood, by the matter of the first foetus that she bore."

◆

Salt for Animals.

Professor Simonds, Veterinary Inspector to the Royal Agricultural Society, observes, in relation to the action of salt on the animal economy, that "it is exceedingly beneficial in moderate quantities, but prejudicial in large ones." He thought horses might take with advantage from an ounce and a half to two ounces of salt, daily; but that an excess of it would render animals weak, debilitated, and unfit for exertion. Similar facts were applicable also to oxen, which accumulated flesh faster by the judicious use of salt, than without it. He cited Arthur Young, and Sir John Sinclair, to show that salt had a tendency to prevent the rot in sheep. Prof. S. added as his own opinion, that salt, by its action on the liver, and the supply of soda it yielded to the bile, led to a greater amount of nutriment being derived from the food. The substance, he said, was also well known as a vermifuge, destroying many kinds of worms in the intestines of animals, and conferring a healthy tone of action which prevented their re-occurrence. Several members of the R. A. Society, as Col. Challoner, and Mr. Fisher Hobbs, stated that their experience led them to agree with Prof. Simonds, in regard to the value of salt for animals. In reference to the mode of giving it, the practice of placing large lumps of rock salt in fields or yards, where it was always accessible to the stock, was mentioned with approbation. This practice is now adopted by many farmers in this country, and after several years trial is preferred to the former mode of giving salt periodically. When animals are only allowed to have salt once or twice a week, it is sometimes the case that they eat too much at once, but by having it constantly in their reach, they eat in such quantities as their systems require, and it assists digestion, and promotes health and thrift.

◆

Fire Annihilator.

There seems to be no doubt that the ingenuity of man has at last devised a means by which the "devouring element" may be in a great degree deprived of its terrors, and its power to harm. A man in England, by the name of Phillips, has obtained a patent for what he calls a "Fire Annihilator," and is described as "a machine containing a chemical preparation, which, whenever occasion demands, will discharge, with the power of steam, a vapor in which flame cannot exist." It has been subjected to several tests during the great exhibition at London, and in all of which it has proved entirely effectual in accomplishing the purpose for which it was designed. One of the most striking and gratifying experiments for testing the efficacy of this invention, was made by filling the hold of a vessel of 150 tons burden, with the most combustible materials, which were set on fire, and allowed to burn with the hatches closed, for several minutes, when, on admitting the air, the flame burst forth with great power, ascending high above the deck.

"The word being given by Mr. Phillips," says an eyewitness, "his men brought the portable machines forward. Each of these portable machines is of about 20 horse power, that is to say, from the peculiarity of the invention, the vapor from the nozzle or spout of each, was admitted at that ratio. Two of these were brought in succession on the burning mass from the mouth of the hatchway, and in three seconds the vapor had extinguished the great body of the flame, leaving one or two small points where the flame was discernible; and in about two minutes the vessel was almost clear of all smoke."

The experiment was witnessed by several officers of the Royal Navy, who severally signed a certificate embracing the facts above mentioned.

ANSWERS TO INQUIRIES.

Drain Tile Machine.—A. B., South Carolina. We know of no other machines for making tiles, than such as have been previously mentioned in our journal. We do not see how it would be possible for a machine to be made, that would answer the purpose, for a much smaller price.

Raising Water by Wind power.—T. S. E., Salem City, Oregon. We have no wind-mills in operation for raising water in this vicinity. We have seen pumps worked by wind for this purpose—the apparatus being moved by the ordinary mode of attaching sails to the arms of a shaft.

Name of Pear.—B., Nassau, N. Y. The pear you left with us, is the summer Bon Chretien. It is a native of Europe, but has been long cultivated in this country.

Corn-stalk Cutter.—R. S. C., Elmira, N. Y. We know of no machine better adapted to this purpose than Wheeler's, which is for sale by Emery & Co., and Wheeler & Co., of this city. It is adapted to horse power. Price $28. Hay or straw can be cut by the same machine.

Buckthorn.—J. C., Brandon, Vt. The buckthorn is very different from the common white or any other species of thorn. The former is the only kind which has generally succeeded in the Northern States. The seeds can be obtained at most seed-stores in Boston, Albany, or New-York. If planted this fall, two inches deep, the frost will probably soften the outer covering so much that the seeds will mostly vegetate next spring.

Reclaiming Swamps.—S. L., Gay's River, N. S. The land you describe could probably be made to produce good crops of hay. The first thing to be done is to make the ground so dry that the cultivated grasses will grow; next to kill out the wild growth, and sow the seeds of the kinds wanted. If the ground is solid enough to work horses or oxen, plow and level the ground, dig out and burn, (or carry off,) the roots and turf which appear above the surface; sow timothy and red-top, either in spring or early autumn, and bury the seed slightly with a rake or bush-harrow. As to the expense, it is impossible for an estimate to be made without knowing all the particulars, such as the price of labor, and the exact circumstances, relating to the situation of the ground.

Ice-house.—W. A. M., Chautauque county, N. Y. The plan of which you speak, described in our volume for 1847, has been adopted in many instances, and with entire success. In the principal ice-exporting districts, the houses for storing it are of late generally built above ground.

Hay Press.—B., New London, Ct. Deidrick's press, made by L. Deidrick, Kinderkook, N. Y., with some improvements which have been lately made, is thought to be equal if not superior to any in use. It is made both in a portable and stationary form—the former being sold at $100, and the latter at $200 to $300, according to size.

NOTES FOR THE MONTH.

Acknowledgments.—Communications have come to hand, since our last, from Observee, A. B. Allen & Co., H. M. Congar, Prof. J. P. Norton, Wm. H. Sotham, J. H. Salisbury, W. A. Mayborn, D. B. Richards, S. W. Bartlett, Tyro.

The Stone-Hill Potato.—We have received from Mr. D. A. Bulkley, of Williamston, Mass., a sample of a variety of potatoes with this name. Mr. B. states that he raised them from seed of the Carter potato, the present being the fourth generation from their origin, and they have this year been very productive on his farm. The tubers left with us are large, white, and every way fine in appearance, and having had several of them cooked, we can say the quality is excellent.

☞ Mr. John Giles, of Providence, and Dr. Eben Wight, of Boston, will accept our thanks for a pair of beautiful Aylesbury ducks, received from each them.

Potatoe Disease.—We have received through His Excellency Gov. Hunt, two letters from Mr. Smith Fancher, of Broome county, on the subject of the potato disease. He thinks the disease is caused by "a fly, rather larger than our common fly, of rather a blackish cast, with gilt spots on its wings, of a golden brightness." To prevent the attacks of this fly, he recommends sowing slacked lime on the tops of the potatoes, while they are wet with dew. This he thinks "will extract the poison and destroy the nit." The idea that this disease is caused by insects has been often advanced, and the evil has been charged on many species; but accurate investigation has shown the hypothesis to be without foundation. A similar remedy to that suggested by Mr. F., has been applied in numerous instances, without any effect to lessen the malady.

Uniformity in Breeding.—A *family* of cattle exhibited by W. W. Wadsworth, Esq., of Geneseo, at the late State Fair, deserves special mention. It consisted of a cow nine years old, and five of her offspring, viz: one cow, six years old; one ox, five, one cow, four; one heifer, three; and a sucking calf. We were told that there was another heifer, in the same family, fully equal to any of these, in good qualities. The parent cow and most of her progeny are red. She is perhaps, seven-eights Short-horn, and has been bred to Short-horn bulls. Her points and handling are excellent—scarcely surpassed by any, and equalled by very few of the Short-horn cows on the ground; and the same qualities are very strikingly apparent in all her progeny. The ox, (which belonged to a pair exhibited by Mr. W.,) was one of the most complete animals, in every particular, that we have ever seen. The whole family form such an example of *uniformity* in breeding, as is seldom attained.

Trial of Plows.—By an arrangement between the officers of five county Agricultural Societies in Pennsylvania, a trial of plows took place on the farm of Thos. P. Knox, Esq., near Norristown, Pa. on the 7th of October. Twenty plowmen with the same number of plows, competed for the prizes. The ground selected for the trial, though the most suitable that could be obtained in the vicinity, was very unfavorable. It was naturally of a tenacious character, and under the influence of three months drouth, had become more solid than any ground we ever before saw plowed. We understood that the rules by which the decisions were made, were that the furrows should not be less than six inches deep, nor less than ten inches wide, and that the plow which effected the most thorough pulverization of the soil, these requisitions being complied with, should be entitled to the preference. The awards were as follows: For the best plow, 1st premium to Prouty & Mears, Centre Draft, No. 5½, $50; 2d do. Jesse Pawling, Jr., $30; 3d do. Geo. Buckman, $20. For the best plowman, 1st premium to Abraham Guile, $25; 2d do. W. R. Kennedy, $15; 3d do. J. B. Walker, $10. Much of the plowing was done in a very creditable manner, considering the condition of the soil, and many of the plowmen evinced a skill which under more favorable circumstances would have caused their work to praise them.

More French Merino Sheep.—S. W. Jewett, Esq., of Weybridge, Vt., has lately received 56 of these sheep, from the flocks of Messrs. Gilbert & Cughnot—making in all he has imported from France, nearly 300 head. We have had the opportunity of examining most of the latter importation, and several of the former. They appear to have been selected with care, and are more uniform in appearance, both as to shape and size of carcass, and quality of wool, than the previous importations of sheep we have seen from that country. Like other French Merinos which have been imported, they are much larger than sheep of the Spanish stock which have been bred here. It is to be hoped they will receive a fair trial in comparison with other stocks.

Good Cows.—Samuel W. Bartlett, Esq., of East-Windsor, Ct., sends us an account of the produce of a Short-horn cow, (Red Lily,) owned by Solomon Cowles, Esq., of Farmington, Ct. The cow was exhibited by Mr. C. at the late show at Hartford, and the statement in reference to her was presented to the committee of which Mr. Bartlett was chairman. "She is five years old; calved Sept. 16, 1851; gave in six successive days in September, an average of 36 lbs. 8 oz. of milk per day, which milk produced 12 lbs. 8 oz., or more than two pounds of butter per day; her keeping, pasture feed only." The following is given as her pedigree: "Red Lily, calved Jan. 4, 1846; got by King Philip, American Herd-Book, 85; gr. sire North-American, English Herd-Book, 684; gr. gr. sire Yorkshireman, 5700. Dam

Red Lily, Rosabella, by Dictator 3591; gr. dam White Tulip, by Whisker, 5639; gr. gr. dam Tulip, by Patriot, 2412."

At the late show of the Berkshire county Ag. Society at Pittsfield, Mass., Geo. S. Willis, Esq., received the first premium for a cow, which was stated to have produced from the 18th day of June to the 24th, inclusive, seven days, 315 lbs. milk, averaging 45 lbs. per day, and making 16 and 14-16 lbs. butter; and in seven days in September, 266 lbs. milk and 14 and 2-16 lbs. butter.

The Horse Black-Hawk and his Progeny.—From a late visit to Vermont, we learn that this stock is more and more highly esteemed as it arrives to a proper age to be tried. This creates a ready demand for them at high prices. A yearling colt was lately sold by Dr. Rice, of Bridport, for $1,000. His destination is Chicago, Illinois. Instances are not very rare of $1,200 to $1,500 being obtained for colts of two to three years old, and $200 to $500 for fillies. One of the finest colts we ever saw, is owned by Messrs. Hill and Walker, of Bridport. He was foaled the 2d of July, last; was by Black-Hawk, dam by Comet, a son of Sherman Morgan. He has, even now, almost the finish and development of a mature and perfect horse. We saw the old horse in harness, again. He still moves with great ease, and shows much of the nerve and elasticity for which he has always been distinguished. We notice that some newspapers, in giving an account of the Vermont State Fair, make a distinct class of Black-Hawk and his progeny, and another distinct class under the head of "Morgan Horses"—thus giving the impression that Black-Hawk does not belong to that noted family. On this point it is sufficient to say, that the writer of this is in possession of the most positive evidence which a case of this nature admits of, that Black-Hawk was begotten by the horse called Sherman Morgan.

Experiment with Potatoes.—Mr. J. W. Gray, of Ball's Pond, Ct., sends us the following: "Last spring I planted three rows side by side across a small patch. No. 1 was planted with large potatoes cut, and two halves put in each hill, three or four inches apart. No. 2 was planted with potatoes of the same size, one in each hill, without cutting; and No. 3 with small ones two in a hill. They were dug to-day and yielded as follows: No. 1 yielded one bushel; No. 2, 26 quarts; and No. 3, 20 quarts. The soil was the same, and all received the same cultivation. Nos. one and two were about equal in size, with about the same proportion of small ones in each, while in No. 3 there was more small ones in proportion to the number. If the small ones were selected from No. 3 and planted by the side of the larger ones from No. 1 or No. 2, for two or three successive years, no doubt the difference would be much greater."

Improved Meat-Chopper.—At the late exhibition of the Philadelphia county Agricultural Society, a machine for cutting meat for sausages was exhibited by J. Bodine, of Trenton, N. J., which appeared to operate in a very satisfactory manner. The knives are attached to the ends of levers about four feet long, each having a seperate action, and they strike on a revolving block on which the meat is placed—the knives being raised, alternately, by a tappet wheel, and fall perpendicularly, of their own weight. The machine was operated by a crank turned by hand and worked with great rapidity. We were assured that fifty pounds of meat had been cut by it fine enough for the best sausages, in five minutes.

Number of Animals Exhibited at the late Fair of the N. Y. State Ag. Society.—The number of animals exhibited in the different classes, according to the entries, was as follows:

		Total.
Cattle.—Short-horns—Bulls and bull calves,	44	114
Cows, heifers, and heifer calves,	70	
Devons—Bulls and bull calves,	62	173
Cows, heifers, and heifer calves,	111	
Herefords,		27
Ayrshires,		12
Natives and cross-bred,		79
In the "Foreign Class"—Short-horns,		13
Devons,		14
Alderney,		5
Hungarian,		2
Working Oxen,		28
Steers—three years old,		32
do two		16
do one		22
Fat cattle—Grass-fed,		11
Stall-fed,		14
		562
Horses.—Class "All work,"		107
Draught,		22
Thorough-bred,		21
Three-years-old,		38
Two-year-olds,		21
Yearlings,		15
Matched—Draught—4 pair,		8
do Carriage—52 do,		104
Foreign—Sucking foals not included,		26
		462
Sheep.—Merinos,		152
Saxons,		47
Long-wooled,		127
South-Down,		139
Cross-bred,		27
Foreign—Saxon and Merino,	8	57
Long and Middle-wooled,	49	
		549
Swine.—Including sucking pigs,		117

Poultry.—The number of entries was 34. The number of specimens in each lot was not in all cases specified, but would amount in the aggregate to 300, or over.

Twin-calves.—*A male and female.* In general, when a male and a female calf are produced at one birth, the female is incapable of breeding, being what is called a "free martin." There are, however, exceptions to this rule, and the organization of some females, produced at the same birth with males is so perfect that they are prolific. Mr. Benj. Sheppard, of Greenwich, N. J., informs us that on the fifth of May, 1849, one of his cows dropped two calves—a male and a female—and on the 11th of October last, the female dropped a strong and healthy calf, and she appears likely to make a good milker.

Imported French Merino Sheep.—We have received from S. W. Jewett, Esq., of Weybridge, Vermont, a note in reference to the sources from which he obtained his French Merino sheep. Respecting reports which it is said have been circulated, that his sheep were, with few exceptions, "grades and culls," Mr. J. says—"I have simply to say that so far from my sheep being grades and culls, they were selected by myself in person from flocks descended from the best blood in Spain, and purchased with special reference to the wants of this country. I will cheerfully give any information to any person, about these sheep, and the address of those of whom I purchased." Mr. J. names Messrs. GILBERT & CUGHNOT as the persons of whom many of these sheep were purchased.

MOORE'S RURAL NEW-YORKER.—An article hastily written last winter, and under extraordinary circumstances sent off by the Editor of the Horticultural Department of this paper to the printing office unfinished, appears to have been entirely misunderstood by the Rural New-Yorker. That paper was referred to as containing "a *copied* article, ascribed to the Cultivator, [that article] giving as new and valuable the twenty times exploded humbug, of raising fruit trees of different sorts from cuttings, by dipping the lower end in wax or tallow."

The two words above in brackets were omitted by mistake, and hence the Rural New-Yorker has supposed that we meant to charge *him* with endorsing the humbug, a thing not true, and never intended nor thought of by us. And we only noticed it, because that paper copied the humbug, *as credited to this paper*,—placing us as its author,—and thus, however unintentionally, doing us great injustice.*

This was all explained in a note from the Editor of the Horticultural Department, to the Rural New-Yorker; and a brief explanation was received too late for insertion in this paper at the time. We supposed the explanation given in that paper would be sufficient to show that he entirely misunderstood us; but as he has lately repeated his former remarks, most singularly and unaccountably charging us with a "libel," we furnish the above brief explanation. His sense of justice will perhaps suggest to him whether, first and last, he has not said many more unjust things of us, than we have apparently said of him.

* This paper being the oldest of the name, and the only one in the United States *without any other distinctive epithet*, was regarded by every one as the paper meant by the term *Cultivator*.

CALAMUS, OR SWEET FLAG.—A correspondent at Ellsworth, Ct., wishes information in regard to the best mode of eradicating this plant from his moist meadows. Can some one tell the best way?

◆

Albany Prices Current.

ALBANY, October 20.

FLOUR.—We have had during the month a dull market for flour, and although the quotations show no important change, the tendency has been downward. The aggregate receipts of flour so far this season, are still far in advance of the receipts to the corresponding period last year; this with a limited export demand leaves a large stock on dealers' hands in New-York. The stringency in the money market has prevented any speculative movement in flour, which the present low prices would otherwise have produced. Flour in England continues to rule low, Western Canal being quoted at 15a18s, Philadelphia and Baltimore 18a19s., Ohio 18a20s., and Canadian 18a19s. 6d. The sales of the month are 31,000 brls. at \$3.75a3.87½ for State, \$3.75 a4 for fancy State and Ohio and Michigan, \$4a4.25 for good to fancy Genesee, \$4.25a4 50 for extra Ohio, and \$4.50a5 25 for extra Genesee.

The demand for Corn Meal has been steady with sales 4500 to 5,000 bags at \$1.15½a1.18¾ per 100 lbs. The Buckwheat trade has opened with a brisk demand from store at \$2a2.25.

GRAIN.—Quotations of wheat follow the decline in the price of the flour, and prime Genesee is quoted at 5a6, lower than it was a month ago; the demand for Genesee at present quotations, 91c. is fair; the inferior descriptions of Western are neglected while those of a better grade are but in moderate demand; the sales are 70,000 bushels at 91a97½ for Genesee, 86c for white Ohio, 81a82c for mixed lots of do., 80c. for red do., 81c. for Ohio Mediterranean and 81½ for this State Mediterranean; the market closed at 91c. for prime lots of Genesee, with no sales of Western for some days. The only sale of Rye during the month has been 300 bushels from store at 66c. for 56 lbs. The supply of Oats both of new and old crop has been limited prices have been variable with sales 114,000 bushels at 30a31c. for heated Western, 34a36c. for good Western, and 36a37½c. for do. State closing at 34a35c. for Western and 36c. for State. The sales of Corn during the month aggregate 230,000 bushels; the receipts by Canal continue very large and are confined exclusively to Western mixed, much of which comes forward in an unsound state; the Eastern and distilling demand is good; the market closes at 48a54c. for lots more or less unsound, and 54a55 for good to prime lots of Western mixed, show a decline on the quotations of this day month of 2a3c. Barley comes forward steady, but the receipts are far behind those to the corresponding period last year; the deficiency to the present time amounting to upwards of 300,000 bushels The quotations during the month have been very uniform and the range between the two descriptions of Barley is wider this season than it was last. Quotations may be given at 72a74 cents for ordinary to prime two rowed and 78a80c. for four rowed, including a load to arrive soon at 80c.; samples of four rowed slightly mixed sold at 75a75¼c. The sales of the month are 370,000 bushels

The Liverpool quotations for wheat, U. S. red, per 70 lbs. 4s. 9da5s.; do white and mixed 5s. 1da5s. 6d.; Canadian red 4s. 9da5s. and whtie 5s. 2da5s. 6d. Indian Corn, yellow, 26a27, white do. 27a28s 6d.

WHISKEY has been in nominal supply during the month; the sales have been light, closing at 21c. for S. P. and low proof Ohio.

FEED.—Sales 50,000 bushels at 12½a14c. for shorts, 15a21c. for second quality and 100a110c. for fine middling.

HOPS.—There is a large speculative movement going on in hops; in the hop growing districts of this state, the prices paid are full as high as in this market, 25a26c. being freely given for all that can be obtained, and taken on the spot; the retail demand here has been supplied at 25a26c., and on Saturdy a sale was made from store of 12,000 lbs. at 26c., and within a few days a sale of 10,000 lbs. has been made in this city at a figure above our quotations. To day bidders generally ask 30c. for larger lots, while retail sales are making at 27c.

PROVISIONS.—The market is confined to a limited retail trade.

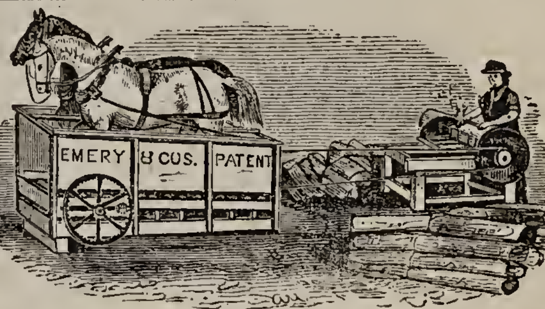
WOOL.—The market here is neglected. At Boston, on the 10th, the demand for domestic wool had been good for some days, and the sales larger than for a long time past, at prices rather in favor of buyers. The transactions add up 350,000 lbs. fleecs, at about 43a46c. Saxony, 39a41c. Full blood, 37a38¾ do., 34a36½ do., 31a33 common. Prices are still rather unsettled for the article, as the drouth which prevails in all directions keeps manufacturers out of the market. In foreign wool, sales of 50 bales washed Portuguese, on private terms. Besides the export of 592 bales foreign wool, noticed last week, 1,500 bales more are ready for shipment to Europe, and only waiting a low freight.

Trees! Trees! Trees!

THE subscribers would respectfully solicit a share of the public patronage in the purchase of all kinds of Fruit and Ornamental Trees, Shrubs, &c.

All orders accompanied with the cash, or satisfactory reference, will receive prompt attention. SHEPPARD & CHERRY,
Nov. 1—1t.* River Bank Nursery, Rochester, N. Y.

References.—A. Saul & Co., Newburgh, N. Y.; Wm. Reid, Elizabethtown, New-Jersey.



EMERY & CO.'S Premium Horse Power.

THE subscribers offer to the Public with renewed confidence, their Superior HORSE POWERS, THRESHERS, and SEPARATORS—as their success in competion with other Powers, during the fall, has shown that in the opinions of committees and the public we have the best Railroad Horse Power for general and particular purposes. Prices are as advertised in former numbers of the Cultivator.

New-York State and Michigan Agricultural Societies, gave to above their first premiums. EMERY & CO.,
369 and 371 Broadway, Albany, N. Y.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton*, *Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square*, *Boston*, will be promptly executed.

Reference to Mr. J. VAN DUSEN, of Cincinnati, Ohio, who will take orders for Fowls, as advertised above.

Boston, Aug. 1, 1851—12t.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, PROFESSOR OF SCIENTIFIC AGRICULTURE.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. JOHN P. NORTON, New-Haven, Conn. June 1, 1851—8t.

THE FRUIT GARDEN,

A TREATISE intended to illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, &c.; the laying out and arranging different kinds of Orchards and Gardens; the selection of suitable varieties for different purposes and localities; gathering and Preserving Fruits: Treatment of Disease; Destruction of Insects; description and uses of Implements, &c. Illustrated with upwards of 150 figures, representing different parts of Trees, all practical operations, forms of trees, Designs for Plantations, Implements, &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

"This book *supplies* a place in fruit culture, and that is saying a great deal, while we have the popular works of Downing, Thomas and Cole. Mr. Barry has then a field to himself, which he occupies with decided skill and ability."—*Prairie Farmer.*

"It is full of directions as to the management of trees and buds and fruit, and is a valuable and pleasant book."—*Albany Eve. Journal.*

"The work ought to be in every family in the United States."—*Ashtabula Sentinel.*

"The work is prepared with great judgment and founded on the practical experience of the author—is of far greater value to the cultivator than most of the compilations on the subject."—N. Y. *Tribune.*

"It is one of the most thorough works of the kind we have ever seen, dealing in particulars as well as generalities, and imparting many valuable hints relative to soil, manures, pruning and transplanting."—*Boston Gazette.*

"A mass of useful information is collected, which will give the work a value even to those who possess the best works on the cultivation of fruit yet published."—*Evening Post.*

"His work is one of the completest, and, as we have every reason for believing, most accurate to be obtained on the subject."—*N. Y. Evangelist.*

"A concise manual of the kind here presented has long been wanted, and we will venture to say that, should this volume be carefully studied and acted upon by our industrious farmers, the quantity of fruit in the State would be doubled in five years, and the quality too greatly improved. Here may be found advice suited to all emergencies, and the gentleman farmer may find directions for the simplest matters, as well as those which trouble older heads—the book will be found invaluable."—*Newark Daily Advertiser.*

This book can be sent by mail to any part of the United States. Just published by CHARLES SCRIBNER,

Oct. 1—3t. 145 Nassau st., New-York.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

Rochester Commercial Nursery,

Established 1830.

THE attention of the public is invited to our large stock of fruit and ornamental trees, shrubs, green-house plants, &c., &c., all of which have been carefully cultivated and are warranted correctly named.

Particular attention has been paid to the propagation of the very best standard fruits, and we are confident that we can fill any orders for these, however large.

We do not boast of the size of our Catalogue, but of the number and beauty of our trees.

An extra quantity of cherry seedlings on hand, of one year's growth. BISSELL & HOOKER,

Oct. 1—2t. Rochester, N. Y.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto. A. B. ALLEN & CO.,

March 1—tf. 189 & 191 Water street, New York.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

HORSE POWERS AND THRESHERS.

THE subscribers solicit the attention of the farming community, to their extensive assortment of unsurpassed Horse Powers and Threshers of all kinds now in use.

1st. The Endless Chain or Railway Power, both for one and two horses, guaranteed to be the best ever made, both for strength, durability, economy and utility, being constructed on scientific principles so as to avoid all friction possible, thereby making them the lightest running power in the United States.

2nd. The circular wrought Iron Power, calculated for one to six horses. A new and well approved article.

3d. Iron Sweep Powers of our own manufacture, for one to four horses, a first rate machine that has always given the best satisfaction.

4th. The Bogardus Power for one to four horses, a very compact machine and adapted to all kinds of work. They are made entirely of iron. In addition to the above, we have several other kinds of well approved powers, together with all the various kinds of under and over shot Threshing Machines ever made. Also the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden seeds to be found in the Union, all of which will be sold upon the best terms and at the lowest prices. Persons in want of any of the above articles will find it greatly to their advantage to call on us before purchasing elsewhere.

JOHN MAYHER & CO.,

Aug. 1—tf. No. 197 Water street, New-York.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are now prepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot	in length,	per thousand,	$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices

The establishment is at *Latourette's Point*, *Fresh Kills*, near *Richmond*, *Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

A very Desirable Farm for Sale.

I Offer to sell my farm of 320 acres, situated four miles south of the village of Oxford, Chenango county, N. Y., and near the river and canal. 250 acres of it are under high cultivation, and well and durably watered. The remainder is well timbered. The fences are chiefly stone, and in good repair. It has a large two story mansion, five large barns and sheds, in good repair. It is admirably adapted for a dairy, or for grazing and grain—and has a fine orchard of grafted fruit The farm, for profit, health, and beauty of scenery, cannot be surpassed. It is fully supplied with farming tools and stock, and 130 tons of hay, all or either of which may be had with the farm. The farm can be conveniently divided. The title is perfect, price low, and terms easy. Apply to G. VANDERLYN,

Oct. 1—2t. Oxford.

FARM FOR SALE.

ONE of the best grazing farms in Chautauque county for sale, at $18 an acre. It contains about 220 acres, about 120 acres of which is under a good state of cultivation. The buildings and fences are good, and there is on it a good orchard of grafted fruit. A part of the purchase money can remain under a bond and mortgage for a term of years if desired. The title is perfect. For information inquire of JOHN D. PATTERSON,

Oct. 1—2t.* Westfield, Chautauque co., New-York.

A Choice Farm in Ohio for Sale,

LOCATED in Stark county, three and a half miles south of Massillon, containing three hundred and three acres; about two hundred and twenty-five acres cleared, and in a high state of cultivation. The balance in timber, principally white oak.

The improvements consist of a frame tenant house and barn, a Gothic Cottage, built of stone, beautifully located, commanding a view of the whole estate; a thrifty young orchard of choice apple trees, &c.

The cleared land is a level plain, soil of a superior quality for the production of wheat, free from stumps, and all obstructions to a good system of cultivation. The timber land is what is termed rolling, and elevated about thirty feet above the plain. The Erie and Ohio canal pass through the farm, forming the western boundary, and the Pennsylvania and Ohio Railroad within three miles. In short, it is one of the most desirable estates in Ohio.

The owner being permanently located in a foreign country, is the reason for the farm being offered for sale.

For further particulars direct, post-paid, to the address of the subscriber, C. NESENER, Massillon, Ohio. Oct. 1—4t.

Splendid Farm in Ohio for Sale or Rent.

WE have a splendid farm for sale or rent, containing about 300 acres. It is situated 21½ miles west of Columbus, and within 2½ miles of London, the county seat of Madison county. An excellent McAdamized road, from Columbus to Xenia, passes through it. The access to market either east or south, is easy and quick. The railroad from Cincinnati to Cleveland has a depot at London, 2½ miles from it.

About 125 acres of the land are cleared and under good improvement. The balance is well timbered, and the whole is under fence. It is well watered, having springs or streams in abundance.

On it is a substantial brick dwelling house and two other comfortable tenements. The orchard contains about 200 apple, peach and pear trees. The whole farm is well adapted for raising grain, or corn, and would make an admirable dairy or stock farm.

The proprietor has made arrangements in the west to go into another kind of business, and will sell the above farm on reasonable terms. If not sold by winter the above farm will be rented for a series of years.

For terms apply at this office or to

WOMBAUGH & WHEELER,
Oct. 1—4t. Real Estate Agents, Columbus, O.

New-York Importers and Jobbers.

FREEMAN, HODGES & CO.,

58 *Liberty street, between Broadway and Nassau-street, near the Post-Office, New-York.*

WE are receiving, by daily arrivals from Europe, our Fall and Winter assortment of rich fashionable fancy silk and millinery goods.

We respectfully invite all cash purchasers thoroughly to examine our Stock and Prices, and. as interest governs, we feel confident our Goods and Prices will induce them to select from our establishment. Particular attention is devoted to Millinery Goods, and many of the articles are manufactured expressly to our order, and cannot be surpassed in beauty, style and cheapness.

Beautiful Paris ribbons, for Hat, Cap, Neck, and Belt.
Satin and Taffeta ribbons, of all widths and colors.
Silks, Satins, Velvets, and uncut velvets, for Hats.
Feathers, American and French artificial flowers.
Puffings, and Cap trimmings.
Dress Trimmings, large assortment.
Embroideries, Capes, Collars, Undersleeves and Cuffs.
Fine embroidered reviere and hemstitch cambric handkerchiefs.
Crapes, Lisses, Tarletons. Illusion and cap laces.
Valenciennes, Brussels, Thread, Silk, and Lisle thread Laces.
Kid, Silk, Sewing Silk, Lisle thread, Merino Gloves and Mitts.
Figured and plain Swiss, Book, Bishop Lawn and Jaconet Muslins.
English, French, American and Italian Straw Goods.

Oct. 1, 1851—2t.*

Fruit and Ornamental Trees, at Cleveland, Ohio.

GIRTY & ELLIOTT.

THE collection of trees offered for sale by us this fall, has been selected and grown with great care. It embraces a large variety, including all the best varieties of Fruits; as well as all the *new* Shrubs, Roses, Evergreens, &c., &c., that have been brought into notice for a few years past.

Standard Pears of one, two and three years growth.
Dwarf do do do do do
Standard Apples, do do do do
Dwarf do do do do do
Standard Cherries, do do do do
Dwarf do do do do do

Plums, Apricots, Nectarines, Peaches, Grapes, Currants, Raspberries, Strawberries, Gooseberries, &c., &c.

EVERGREENS,

Of Norway Spruce, Deodar Cedar, Cedar of Lebanon, Tree Box, English Yew, Auricarian Pines, and Balsam Firs. Our stock is very good, and among them many of extra large size. All the new Pines, Spruces, etc., etc., are on hand, and for sale, of common sizes.

15,000 Balsam Firs, small—20,000 American Arbor Vitæ, small—1,500 yards Dwarf Box, for Border Edgings, very fine and thick.

Hardy Azaleas, Rhododendrons, Kalmias, &c.

ROSES.

A very large collection of Roses, and nearly all grown on their own roots, comprising the best selections of Remontants, Bourbons, Chinas, Teas, Moss, and climbing varieties.

Green-house plants in variety, and at low prices. Catalogues will be issued, ready for delivery, on the 1st of September, and forwarded gratis to post-paid applicants. GIRTY & ELLIOTT.

Sept. 1—3t.

SYRACUSE NURSERIES.

THORP, SMITH, HANCHETT & CO., proprietors, Syracuse, N. Y., having 100 acres closely planted to Fruit and Ornamental Trees, Roses, Shrubbery, Green House Plants, &c., we shall have for sale the coming season, a most extensive stock of Nursery commodities, not to be excelled in size and beauty by those of any establishment in the Union. Nurserymen, Amateurs, Orchardists, and Venders, are earnestly invited to call, examine and judge. Our stock of

STANDARD FRUIT TREES,

Comprises all of the best varieties of Apple, Pear, Plum, Cherry, Peach, &c., of such sizes and quality as no contrast can disparage We have also, both by importation and of our own cultivation,

PYRAMIDAL, OR DWARF TREES,

Of the Apple, Pear, and Cherry, designed for compact planting, being thereby *especially* desirable for small lots, Gardens, &c., as well as *generally* so, by reason of their habit of early bearing. We have all of the approved varieties cultivated in this form, from one to four years old—many of the Apples and Pears being now in bearing.

OF THE SMALLER FRUITS,

Currants, Gooseberries, Raspberries, and Strawberries, we are always fully supplied with all the best old and new sorts.

OF ORNAMENTAL TREES,

For the street border, and lawns, our stock is very large. Our Horse Chestnuts and Mountain Ash are particularly noticeable for their luxuriant growth and surpassing symmetry of form. They uniformly excite admiration.

Evergreen Trees, in great variety, new and rare, including Lebanon and Deodar Cedars, 4 to 6 feet high; Japan Cedars; Spruces; Junipers; Taxodiums; &c.

Pæonies—A splendid collection of both *tree* and *herbaceous* varieties.

Dahlias—One hundred and fifty selected sorts, comprising the finest English prize flowers, with all the best in the U. S. 25 to 50 cents each for whole roots.

Phloxes—Over fifty of the choicest kinds.

Roses—A most extensive assortment, comprising 6000 plants of the best varieties, and all the new acquisitions; amongst them the new Perpetual Striped Moss, Herman Kegel, the Hybrid Perpetual, Caroline de Sausel, Gen. Cavignac, Gen. Changarnier, &c.

Bulbous Roots—A choice collection daily expected from Holland, consisting of Double Tulips, Hyacinths, Crocuses, &c.

Plants for bedding out, of every description; *Vines, Climbers, &c.*

Cherry, Apple, and Pear Seedlings; Buckthorn, two and three years old, very strong plants.

All of which will be sold as low as at any other establishment, and in many cases lower, either at wholesale or retail.

We are now issuing a new edition of our Catalogue, containing full information of our productions, terms, prices, &c., embracing, 1st, a general descriptive catalogue; 2d, a full catalogue of select Green House Plants; and 3d, a special catalogue of Dahlias, Phloxes, and Bedding out plants; which will be sent gratis to all post-paying applicants.

☞ Mr. H. Warren, proprietor of the Agricultural Store, 315 River Street, Troy, N. Y., is our authorized agent to receive orders.

THORP, SMITH, HANCHETT & CO.

Syracuse, Oct. 1—2t.

Dana's Muck Manual.

JUST published, by Jas. P. Walker, Lowell, Mass., a new, revised, and greatly enlarged edition of the Muck Manual for Farmers, by Dr. Samuel L. Dana. The increased size of the work, (345 pages,) compels the publishers to put the price at 87 cts. in paper, (and not 75, as advertised a few weeks since,) and $1.00 in neat cloth. For sale in Albany, by Messrs. E. H. Pease & Co.; in New-York, by Mr. C. M. Saxton. Oct. 1—3t.

Contents of this Number.

Agricultural Schools—Institution at Albany.................. 353
Analysis of the White Sugar Beet, by Dr. J. H Salisbury, Query about Manure—Sheep Poisoned by Peach leaves,... 354
Agriculture of Illinois and Iowa, by W. G. Edmundson,.... 355
The Cultivation of Wheat, by W. G. E.,.................... 356
Sketch of Putnam County Farms—Farm of L. D. Clift, by H. C. W.,.................. 357
The Canada Thistle by G B. Smith,.......................... 360
Product of Premium Cows in Massachusetts,................ 361
On the Value of Results obtained by Comparative Analyses of Soils, by Prof. J. P. Norton,.................. 362
On the Growth of Wool,.. 363
Mixing Plaster and Manure—Trotting Horse Trustee,....... 364
The Secret of a Great Improvement—Pomological Meeting at Rochester,.................. 365
The Black Ant, by D. T.—Good Vegetables and Small Fruits, by R. G. P.,.................. 366
A Question about Young Fruit Trees, by J. M.—Correction—Cultivation of the Blackberry—Manetti Rose for Stocks,... 367
President N. Y. State Agricultural Society,................ 368
Implements at the New-York State Fair,.................... 369
Premiums awarded at the State Fair at Rochester,.......... 371
Bees, Robbing, by T. B. Miner—American Plows abroad, by A. B. Allen & Co.—Special Manures for Potatoes, by S. R. H.,.................. 373
Agricultural Exhibitions in different States,. 374
Sales of Stock at the State Fair—Hereford Cattle,........... 375
Trees for Waste Lands—Kerr's Poultry Book—Cross-breeding Animals,.................. 377
Salt for Animals—Fire Anihilator—Answers to Inquiries,.... 378
Notes for the Month—To Correspondents, &c.,.............. 379

ILLUSTRATIONS.

Portrait of the President of the N. Y. State Ag. Soc.,.. 368
Mechanic's Hall at State Fair,........................ 369

ANDRE LEROY,

Nurseryman, at Angers, France,

RETURNS his thanks for past favors, and begs leave to inform his friends and the public in general that his catalogue for 1851 is now ready and can be had on application to his agent Mr. E. Bossange, 138 Pearl street, New-York. He offers for sale a large collection of the finest fruit, forest and ornamental trees of all kinds, shrubs, roses, &c. &c. The superior quality of his trees is already known in the United States, and the experience he has of packing up trees to be sent abroad gives him a noted advantage over all other Nurserymen. Orders had better be sent early, although his Nursery is the largest in France, the number of some new kinds of trees are limited and some of the last orders sent last year could not be executed. The terms, prices, charges, and all desirable information will be found in his catalogue. The trees will be shipped to the care of his agent in New-York, who will attend to the receiving and forwarding. For further particulars and for the catalogue apply to

Nov. 1, 1851—3t. E. BOSSANGE, 138 Pearl street, N. Y.

FANCY POULTRY.

THE subscriber has for sale several pair of white and yellow Shanghaes, Dorkings, Creole or Bolton Grey, Golden Pheasants, small clean legged Bantams, and Frizzled fowls. Any of the above breeds cooped and delivered in Albany or New-York city free of charge. All orders promptly executed. W. H. SOUTHWICK,

Nov. 1—1t.* New Baltimore, Greene county, N. Y.

Prince's Linnæan Botanic Garden and Nurseries.

WM. R. PRINCE & CO., Flushing, near New-York, offer their select and unrivalled collection, comprising Fruit and Ornamental Trees of the laagest sizes for transplantation.

30,000 pears in a bearing state, three to seven years growth, and a great number of smaller sizes.

Apples, Cherries, Plums, Peaches, Nectarines, Quinces, and other Fruit Trees of two to five years growth.

Evergreen Trees of large sizes, comprising Norway Spruce, Hemlock, and White and Blue Spruces, Balm of Gilead Fir, Arborvitæ of six kinds, Sweedish and Irish Junipers, and Pines of various rare species. Also, Cedar of Lebanon, Deodar Cedar, Cryptomeria, Araucaria, Mahonia of different species, Abies morinda, Tree Box of different kinds, 50 varieties of Rhododendrons, green and variegated Japan Euonymus, and Irish Yew, all of good size. The collection of Evergreens is unequalled.

Deciduous Ornamental Trees and Shrubbery, of the largest sizes, suitable for imparting immediate ornament. Also, 25,000 Roses of the Daily, Perpetual, Moss, and other varieties on their own roots and none budded.

10,000 finest Foreign and American Grapevines, including several native varieties superior to the Isabella. Above 100 beautiful Chinese double Herbaceous Pæonies, and 40 very splendid varieties of the Tree Pæony, many of which are large plants

A large collection of Bulbous flower roots and Herbaceous flowering plants at low rates.

The new Supplement Catalogue just issued, comprises all the estimable varieties of Strawberries, including 30 splendid varieties never before announced, together with the new Californian Trees and plants and the novelties of every class latterly brought to notice. Priced catalogues in three parts will be sent to post-paid applicants who enclose stamps. Nov. 1—1t.

N. B.—A wholesale Catalogue also for Nurseries and other venders.

Kinderhook Nursery and Garden.

At Kinderhook, Columbia co., New-York.

THE proprietor has on hand his usual large supply of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs, Gooseberry and Currant bushes, Grapevines, Hedge plants, Raspberries, Strawberries, &c.

The Trees are of large size, thrifty growth, and well rooted, and can furnish nearly all the new varieties ordered, and will sell at the lowest market prices.

Ornamental trees being grown extensively, can be furnished by the hundred at very reasonable rates. European Linden, Mountain Ash, Scotch Elm, English Elms, English Sycamore, Weeping Willow, with a good collection of Roses, Green-house plants, &c., all which can be supplied in quantities to suit purchasers. Catalogues will be forwarded to all applicants.

Nov. 1—1t. H. SNYDER, Nurseryman, Kinderhook.

STATE AGRICULTURAL WAREHOURSE.

EMERY'S, Kell's, and Wheeler's Horse Powers and Threshers. Hovey's, Clinton's, Tower's, Sinclair's and Botts, Straw and Stalk Cutters.

Vegetable Cutters for slicing up potatoes, beets, &c.

Corn Shellers of various patterns.

Fanning Mills of Bryan's make—this is considered one of the best Mills in use.

Clinton's, Bamborough's and other makes.

Prouty & Mears' premium Plows of all sizes.

Minor & Horton's and Eagle Plows.

Harrows of Geddes, Triangle and Scotch patterns.

Paring Plow, a superior article made under the direction of Prof. Mapes.

Subsoil Plows, of Weir's pattern, which is half the draft of the old style.

Ox or Road Scrapers, Seed Sowers, Cultivators, &c.

Field and Garden Seeds.

Fertilizers, such as Guano, Bone dust, Bone Coal, Plaster, Poudrette, Bone Manure and Sulphate of Soda. For sale by

GEO. H. BARR,
Nov. 1—1t. No. 25 Cliff street, New-York.

To Farmers and Planters.

THE subscriber has made a contract for a large quantity of bone dust, ground fine, also, for the sawings and turnings of buttons, which he offers for sale at $2.25 per barrell, including package, warranted pure. Owing to the large demand this season, many were disappointed in getting their supply, without paying exorbitant prices (elsewhere.) Farmers and Planters will please send in their orders at their earliest convenience, stating the quantity they will want, and at what time the same is to be delivered. It is necessary to have their orders at this season to enable me to reserve for them their supply in the spring or earlier. If they desire, now in store, Peruvian guano, Bone black, Wood's Renovating Salts, Potash, Oil of vitriol and Poudrette.

GEO. H. BARR,
State Agricultural Warehouse,
Nov. 1—1t. No. 25 Cliff street, New-York.

A RARE CHANCE!

POMONA FARM FOR SALE—consisting of 120 acres of excellent land, including a young Orchard of Fifty acres, containing over five thousand trees, of the choicest kinds of apple and peach, selected with especial reference to market purposes—the apples mostly of the longest keeping varieties, designed for the Southern markets. The peach trees are planted alternately between the apple, so as to be removed by the time the latter will need all the ground. About half of the trees have been planted two years, the rest one year, and a thousand or more of the peach may be expected to bear fruit the coming season. In a very few years, it is believed, one good crop of fruit from this Orchard will be worth sufficient to pay for the entire purchase of the farm.

Pomona Farm is situated near the village of West Jefferson, 14 miles west of Columbus, O., at the intersection of the National Road, Xenia Turnpike, and the Columbus and Cincinnati Railroad, and within 100 rods of the Depot; affording excellent facilities for transporting fruit and other products to market. The situation is beautifully elevated and undulating, and remarkably healthy, and is well adapted for fruit and grain growing, poultry raising, &c. About 100 rods of Osage Orange Hedge was planted on the premises last spring, and plants are now ready for completing the enclosure of the orchard the coming spring, if desired. This property was purchased and improved by the proprietor for his own permanent use, but finding it inconvenient to attend his business in town and this at the same time, he has concluded to allow some one else to reap the fruits of his labor, only asking a small return for his expenditures.

For particulars, address, M. B. BATEHAM,
Nov. 1, 1851—1.* Editor Ohio Cultivator, Columbus, Ohio.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be PAID IN ADVANCE.

ADVERTISEMENTS.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

New Series. ALBANY, DECEMBER, 1851. Vol. VIII.—No. 12.

Close of the Volume.

Another year has been added to our labors, which completes the twenty-first, since an early formed love for agricultural pursuits, and a firm conviction that no branch of industry so much needed the aid of the press, induced us to embark in the then new enterprise of an Agricultural Journal. We were, at that period, almost alone, and the support received for the first two or three years, would have driven less sanguine hearts from the field in despair; but finding a few who appreciated our efforts, and extended to us their sympathy, we persevered until we saw our favorite Genesee Farmer increase in circulation, from a few hundreds in 1831 and '32, to seventeen thousand in 1839, when it was united with The Cultivator. We deem it no more than just to name, among those to whom we were most indebted for aid and sympathy, Judge Buel, of Albany, Hon. Dan Bradley and Willis Gaylord, of Onondaga county, men whose early and strenuous efforts in the cause of agricultural improvement should make their memory duly cherished,—David Thomas, of Cayuga county, Lewis F. Allen, of Erie county, and Lyman B. Langworthy, of Monroe county, all of whom, by their constant and valuable contributions, did much to give character to our Journal, and place it on a firm basis.

Then—in 1831—there were but three or four agricultural papers in the Union, and these had a very limited circulation, and but few Agricultural Societies. Scarcely a book on rural affairs could be procured, because there was no demand for them. Farmers had little ambition, and their farms, with rare exceptions, were rapidly deteriorating.

Now, Agricultural Papers and Books are scattered broadcast over our land, and the demand for information taxes science and experimental industry to the utmost. The wonderful achievements of American ingenuity, energy, and intelligence, are nowhere more distinctly perceptible than in the change in the agricultural aspect of the Union. Along side of the roads, whose iron-bands unite our most distant cities, upon the banks of the rivers and canals, whose waters bear away the products of our soil, there have been springing up intelligent, thinking farmers. We see proof of this in the crowded fairs, in which states vie with each other in the fruit of their labors, in the usefulness of their inventions, in the beauty and superiority of their domestic animals. Neighbors, towns, counties, states and nations, are all ambitious to excel in this *first-born of arts,* and to add new dignity to a profession as stable as the soil it cultivates, as wide as the earth it tills. Science boasts not now so much of the wonderfulness and intricacy of its results, as of their useful and practical bearing. Giving each feature of this progressive age its proper consideration, we must be allowed to rank advance in Agriculture as among the *first* of our national improvements.

From all this we gather abundant reward for past exertion, and increasing encouragement for the future. The science of Agriculture is yet in its infancy. A mere fraction of the farming population are aroused to the work of improvement, and who can say that his desire for knowledge on this subject is satisfied? The past should only teach us what mighty results continued effort may bring out of the future. There are momentary demands that once met, are never again heard of. There are fluctuating interests, that demand auxiliaries as variable, but there are also fixed and deeper demands which can never be fully supplied,—interests which cannot be pressed home too closely, or consulted too much. History, as well as experience, teaches that no scheme can be carried into successful execution, that is not vitally connected with the permanent well-being of the country. That an improved and fertile soil, and cultivated, resolute, active laborers on it, are the *sine qua non* of a prosperous nation and a happy people, no one will deny. To satisfy the demand for reliable information—to direct inquiry,—to incite investigation,—to form a correct taste on subjects of agricultural interest, and to perfect a system of husbandry, are our aims. In the variety, worth, and amount of matter we present, we are determined not to be out-done. To meet, as far as possible, the wants of the age,—to deserve the support and co-operation of those to whose interests we devote our best efforts, is our purpose.

It is then with little regret that we see the close of another volume of The Cultivator, for it brings renewed hope that the seed it has sown will spring up and bear a richer harvest than any of its predecessors; and we shall enter upon our next year's labors in the full confidence that we shall deserve and receive the co-operation and aid which has been so liberally and increasingly bestowed upon our efforts during the twenty-one years now brought to their close.

☞ We are preparing a Pictorial Almanac for 1852, which will form the first thirty-two pages of our next volume, and be sent with the January number to all our subscribers.

Agriculture of Illinois and Iowa.—No 2.

BY W. G. EDMUNDSON.

Cultivation and Management of the Wheat Crop.—The past season, owing to the cold and frequent rains that occurred during the spring and early summer months, has been very unfavorable for both spring and winter varieties of wheat. The country was completely submerged with water and mud, for a period of at least three months, and on the valleys and high table lands, the crops of wheat, corn and oats, proved an entire failure throughout a breadth of territory equal to the area of the arable land of New-York. The early settlers of the country have no recollection of a similar rise of waters; and indeed the damage to the crops from this source, excepting on some of the low river bottom lands, is not to be apprehended in future seasons, any more than the inhabitants of eastern states, might with propriety anticipate occasionally a similar catastrophe. In an average of seasons, the natural tendency indicated by the topographical formation of the western prairies, would be a short supply of summer rains, rather than an excess; and this fact is here mentioned to allay misapprehensions that may be formed, by those interested in the progress of the west, based upon the losses sustained to the agriculture and commerce of this vast and interesting region of country the present season.

The wheat plant, as all experienced cultivators will admit, delights in a dry porous soil, one that will not hold any superabundance of water that may fall from the heavens on or near the surface, like a basin; but will allow, after the active soil becomes sufficiently saturated, the balance to either pass off over the surface, or else settle down into a porous gravelly subsoil a sufficient distance from the presence of the roots of plants to prevent any serious injury. Besides this, with proper farming, a dry summer is always more propitious on this continent for winter wheat than a wet one. For these reasons, and many others that in due course of time we shall fully mention, we felt warranted in arriving at the conclusion, that the day is not far distant when the anticipations formerly entertained of the Upper Mississippi Valley, becoming the most productive granary of the world, will be fully realised. The qualities of the soil, the influences of climate and the geographical position of the country, all conspire to make our prediction, among the easiest possible things to be accomplished. Abundant crops of the delicate descriptions of grain will not, however, grow spontaneously, but by investing the same amount of skill and capital in their cultivation and management, a larger yield may in an average of seasons be produced, than can be done in the Union. Although rains were so abundant the present season as to drown out the crops in the valleys, yet on all high rolling lands the average yield of wheat would range from 15 to 25 bushels per acre, where any thing like justice was done the crop in the preparation of the soil. Rust, on either winter or spring wheat, was by no means common, and the weather was of that peculiar damp and warm character that would have predisposed the crop in New-York to that disease. This great bane to the wheat growing interests of Pennsylvania, New-York and New England states, is not considered by the farmers of Illinois and Iowa, as among the necessary contingencies to check their success in growing wheat crops. This is decidedly a favorable omen, and it is one that has a greater influence on our mind than any other in producing the conviction, that the wheat growing power of these states are by no means understood by those who eagerly advise the farmers to cease growing breadstuffs, and turn their attention to the cultivation of corn, to grazing, and other branches of agriculture. It is proper here to state, however, that there are sections of country that are quite too level for the profitable growth of wheat, but by far the greater portion of the arable lands are adapted by nature for this crop. Indeed, judging from what we have already seen, we should conclude that a much greater proportion of those states may be denominated wheat soils, than could be claimed by either Ohio or New-York.

The timber invariably skirts along the rivers and streams, and in proportion as the streams get smaller the breadth of timber widens. Along the Mississippi, Illinois, Fox, Rock, Desmoines, Cedar and other rivers of the largest size, only from one to five miles in width of timber are skirted along their borders; but as soon as the traveller reaches the source of those streams, where an abundance of springs almost invariably abound and the country becomes beautifully undulating and frequently interspersed with small living streams, few or no large prairies are found, and the timber and prairie land are nearly equally divided. Wherever large streams or rivers run nearly parallel to each other, the timbered land as has already been stated, is scarce; but at the head of those rivers or streams, nature has wisely arranged a beautiful high rolling country, thickly interspersed with never failing springs and an abundance of enduring water power for hydraulic purposes; and besides the prairie and woodlands are so beautifully divided that no one need be at either much expense or trouble in owning a farm which in point of beauty and quality has no rivals in any other country through which we have previously travelled.

To those who have never seen a prairie country, words would fail in appropriately portraying their beauty so as to convey any thing like an accurate impression of their vastness and grandeur. A prairie ten miles in breadth and fifty in length, may be considered an average size for those that stretch along the larger branches of such rivers as Illinois, Rock and Demoines. But the Mississippi and Illinois rivers afford prairies many hundred miles in length and from twenty to forty miles in breadth. These large prairies are not desirable for arable culture, from the fact that the entire absence of timber gives them a perfectly monotonous appearance, so much so that it is painful to the eye to behold them; and besides the cost of getting a supply of timber for buildings is so great that for some time to come they will not be sought after by capitalists or be brought into cultivation. A prairie from three to five miles in width and some twenty miles in length is among the prettiest rural sights we have yet had the good fortune of beholding. In almost every instance where prairies of this size have come under our observation, they have presented a beautiful undulating appearance, rolling back in both directions from the woodland, in a style that would thoroughly captivate the mind of every true admirer of nature, until the summit level was attained, when an unbroken stretch of high level table land intervened between the undulating portions, ranging from two to three miles in breadth, and as far in the distance lengthwise of the prairie as the eye could behold, without being able to distinguish any obobject other than herds of sleek fat cattle grazing on the rich herbage so bounteously supplied by the hand of Providence. Bordering these prairies, ravines repeatedly join on to the belt of woodlands, which act as feeders to the streams, and carry off the over supply of water that falls in shape of rains. Since the white man has taken possession of the country, great care has been observed to prevent the fires from running over the prairies, as was formerly the case, when the red man of the forest owned the country. These ravines in almost every instance, have become skirted with a young growth of beautiful timber, in many instances a mile in width, and frequently from one to five miles in length, and occurring in favorable distances of from two to five miles apart, have a charming influence in imparting a rich and healthful appearance to the rural landscape, that can neither be imagined nor described.

There is at this time a much greater supply of wood, in Illinois especially, than was the case fifteen years ago. This supply will go on increasing, until in the lapse of twenty years timber will be sufficiently abundant for agricultural purposes. What is now much wanted is a thick growth of young timber around each quarter section of prairie, averaging some six rods in width. This could be obtained at a trifling cost, and in ten years the timber would attain the average height of fifteen feet, and would not only add to the beauty of the country, but would shelter the fields from the raking winds of winter, and ultimately be the means of supplying the country with an abundance of wood for fuel and building purposes. Live fences, where timber is scarce, are the best and cheapest for a prairie country; and at an early day we shall give our views in full, accompanied with some practical directions on this somewhat new and important branch of business to American farmers.

At the head of nearly all the streams we have yet visited, a wide range of country, lying between the heavy timbered land and the prairies, occurs, which is here denominated "*barrens.*" The quality of the soil and the timber grown upon it, greatly resemble those of the oak openings, so distinguished for the growth of wheat and clover, in Genesee and Monroe counties, New-York, with the difference in favor of those of the west, that the ground is much richer in vegetable mold, from the fact that a vast growth of prairie grass, where the timber is thin, is usually seen. This deep vegetable soil, ranging from four to ten inches in depth, would relieve the farmers in a great measure from the necessity of employing gypsum as a top dressing on their clover crops, which in the east has been found indispensible for the success of the clover and the succeeding wheat crop. We learn from reliable sources that the barren lands so called uniformly are located at the head waters of all the streams of the west. These to our mind are the most valuable lands of the country; and for the cultivation of clover and wheat, and for the pasturage of sheep, will some day be as much appreciated, as has become the celebrated soil of Wheatland, New-York. It is proper here to remark that on the barrens, or oak openings, clover and sheep, are employed as the agents by which the fertilizing properties of the soil are replenished and enlarged, converting a naturally poor or barren dry soil, in process of time to one so rich and fertile and in every respect adapted to the crop, as to produce in an average of seasons from twenty to forty bushels of the finest quality of wheat per acre. These lands may now be had for from one to three dollars per acre, and indeed are thought in most cases unworthy of cultivation.

There is ordinarily sufficient timber upon this quality of land to fence it, and the clearing, plowing and grubbing will cost from $6 to $8 per acre—which with a fee simple title, will bring it up to a price ranging from twelve to fifteen dollars per acre under fence and in crop. The first year it will produce about fifteen bushels of wheat per acre, and the second year it should be summer fallowed by plowing once in autumn and twice in summer, and sowed with wheat in the early part of September, at the rate of two bushels per acre. With the wheat crop, the land should be seeded with clover and timothy and pastured or mowed, the first year, and the second year's clover pastured till midsummer, and the clover sod in the early part of August plowed as deep as possible for wheat—once plowing only would be necessary, and by breaking up the clover sod at least one month before the period for sowing, the ground will become sufficiently pulverized to be seeded with a drilling machine, which in all cases may be advantageously employed, when the land is clear and in a high state of cultivation.

The foregoing is as nearly as possible the plan of cultivation we should practice, were we to attempt successfully to grow wheat on a large or small scale, on the barrens of Illinois and Iowa. In an average of seasons, it would be reasonable to expect at least thirty bushels of first quality of wheat per acre, and the land for an almost indefinite period of time would continue to yield that or a greater quantity in periods of three years. If the whole of the clover was fed on the ground it would ultimately become so rich that damage would be experienced from an excessive amount of straw, but a skillful operator would then either cut a crop of hay in one of the two years that it would be in clover sod, or else in each breaking up plow from two to three inches deeper than the previous plowing until the soil became broken and friable to the depth of from twelve to fifteen inches. The soil, both surface and subsoil, on the barrens, is of a dry warm nature, and the surface is in all cases sufficiently undulating to constitute it in an eminent degree among the best wheat lands of this Union; yet we find that it is a perfect drug in the market, so much so that much of it can be had at Congress price, within a convenient distance of large and populous villages and settlements. The wheat plants on those barrens, are not so liable to be winter killed as on the prairies, and now and then a farmer, with whom we conversed on the subject, acknowledged that those lands might some day be brought into profitable cultivation.

The difficulty of growing in an average of years a highly remunerative crop of wheat, on a deep, rich, prairie soil, is much greater than what would be experienced under the foregoing treatment, on lands in a state of nature, so poor that it is thought at the present time to be so worthless that it would not pay the cost of clearing, fencing, and cultivation. These difficulties, however, are not of that nature as to make them insurmountable by a scientific farmer, or one, rather, who understands adapting his soil to the requirements of the particular crops he attempts to cultivate. Winter killing by winter and spring frosts; the blowing of the small particles of the soil on the surface, thus exposing the roots of the plants to the action of the rays of sun, and to frosts; and the almost total absence of snow, by which no protection is given to the wheat crops during winter, are among the serious obstacles that a western prairie farmer has to contend with, provided he makes the business of wheat growing a primary object. These may be sufficiently obviated by a clever process of engineering, if the term be admissible in this instance, so as to secure, in ordinary cases, favorable results. Deep culture is a prominent feature by which a moderately deep vegetable soil can be fitted for the success of the winter wheat plants. In all cases where it is practicable to bring to the surface from two to three inches of clay, no reasonable effort should be spared to effect that object. The late autumn months, if other things be equal for the performance of this labor, are the best calculated to ameliorate an inactive soil, from the fact that the frosts of winter have a more perfect mechanical action on stubborn, or inert soils, than any other agency. In all cases where very deep plowing is attempted, with a view of ultimately preparing the soil for winter wheat, the fall or winter should be chosen for the performance of the work. As autumn plowing is ordinarily done, it frequently not only does no good, but a palpable damage is done the soil for the succeeding crop. If plowed in flat beds, or lands, with few or no parallel furrows for the water to pass off from the surface, the freezing and thawings during winter and spring will cause the mass to run together, and in the spring, instead of breaking up fine and mellow, the soil will be cloddy, and totally unfitted for profitable cropping. Narrow lands with deep water furrows, appear necessary to obviate this evil; but on some soil the natural tendency is to wash along the furrows so as to make deep trenches, unfitting the land in many instances for cropping, without a large expenditure be made in reducing the surface to a perfect level. This influence of course must be guarded against, and it would be better not to attempt autumn plowing or deep-water furrowing unless, a great advantage would certainly accrue from them. The best method with which we are practically acquainted for deepening soils, is a species of deep trench plowing which is entirely unknown in the western country, and which, if neatly done, would act like a charm in pulverizing, and in changing the wild and adhesive character of new prairie soils. A plow that will naturally turn a furrow of fifteen inches, is set to turn thirty inches, and consequently only one half of the thirty are turned. The fifteen inches acted upon by the plow is made to rest neatly upon the portion not turned, so that the two extreme edges are brought exactly together. If the furrow be turned six inches in depth, the frost and atmosphere will act upon a surface of forty-two inches, instead of thirty in the ordinary case. The whole surface of the field would then present a trenched or ribbed appearance, exposing a much larger surface to the action of frost than would ordinarily be the case, and at distances of thirty inches would be a deep drain, which would thoroughly carry off any surplus water that might otherwise remain on the surface. In addition to this, a sub-soil plow might be made to pass along each furrow to the depth of six or eight inches, which would still deepen the soil, and by mixing the sub-soil, thus tempered by frost and the atmospheric influences, a consistency would be given to the whole surface acted upon, which would eminently fit it for the production of wheat or any other crops, with much less labor than would be required if the common method had been practiced. Sod thus broken, by the two surfaces being brought evenly together, will undergo a more perfect decomposition than by any other process. The furrows being so close together, and numerous, will prevent the soil washing to any extent, and when plowed crosswise in the spring, the work may be commenced much earlier than land not thus treated, and the whole will be reduced to the finest possible tilth.

To prevent winter-killing of wheat, a fresh inverted clover sod, turned up in narrow lands; a liberal seeding of about two bushels per acre; early sowing; and drilling in the seed in rows about nine inches asunder, are among the mose feasible plans we are prepared to recommend to the favorable attention of those who may attempt to grow this crop extensively on a prairie soil. Where the land is properly prepared for the use of the drill, it will perform an important office, such as no other implement could effect with so little cost. The plants being in rows, become stronger than if scattered promiscuously over the ground; the roots intertwine in each other so perfectly that the frost can not remove the one without the others; the tops of plants form an umbrella covering, which protects the roots from early and late frosts, and hence the crop will arrive at an earlier maturity; and the free circulation of air between the rows imparts a hard outer surface to the straw, which will naturally aid it to resist the attack of rust and fungus productions. Some, we are aware, will object to sowing two bushels of seed per acre on a rich prairie soil, but if the system of culture we have hastily submitted for public trial and criticism be tested, we pledge our word for it that in nine cases out of ten the result will be highly favorable, and when the system becomes generally practiced, the cry of hard times will be among the things that were. *Keokuck, Iowa, Oct.*, 1851.

Get in wood for fuel before snow falls deep. See that animals are well sheltered.

State Cattle Show at Baltimore.

We are indebted to our friend Dr. G. B. SMITH, of Baltimore, for the following notice of this show, which appears, from all accounts, to have been one of the best ever held in the country.

FOURTH ANNUAL CATTLE SHOW AND EXHIBITION OF THE MARYLAND AG. SOCIETY.—This great exhibition commenced on Tuesday the 21st of October, and closed on Friday evening the 24th. It was the most splendid affair that has ever taken place in this State, and according to the opinion of many good judges, superior to anything of the kind that has ever occurred in the United States. At all events it is difficult to conceive how, or in what point, it could have been surpassed *anywhere*. The writer of this has been familiar with such scenes for thirty years, in all parts of the country; and has carefully read details of those in Europe, but, taken as a whole, he is free to say the Maryland display of 1851 was unrivalled. In only two points this affair did not equal some of the Northern shows: *Beef Cattle* and *Visitors*. The first was strangely neglected by the graziers within our jurisdiction,—who supply the best beef in the world, and to whom the Philadelphia and New-York victuallers are indebted for a very large portion of their best supplies. Even in this point, however, there was a good display, and even old John Bull could have supplied himself with roasting pieces to his jolly heart's content. Of the second point, *visitors*, if the numbers compared with *agricultural population* be considered, it will be found that even in this view we carried off the palm triumphantly. Peculiar circumstances rendered the receipts at the gate small in proportion to the number of visitors. The ground and buildings are owned by a large number of stockholders, all of whom were entitled to free admission with their families, and to *duplicate* or transferable tickets in number according to the number of shares of stock held by them; and all members of the Society and their families; and all exhibitors, servants and assistants, were entitled to free admission. It will be obvious that these free admissions embraced a very large portion of the attendants; and yet the receipts at the gate amounted to upwards of *five thousand dollars* for admission alone. The friends of agriculture, therefore, may congratulate themselves on the rapid strides this great interest is taking in the improvements of the age.

The grounds of the Society are located about two miles from the center of the city, and about one-fourth of a mile from its northern limits. They comprise about twenty acres, nearly in the form of a square. About three-fourths of the ground is clear of timber, and the balance handsomely covered with a grove of thrifty oaks. A large portion is a fine level, the rest a gentle elevation, on which the buildings are situated. The Society's buildings are, a large "Household Hall," in the form of a cross, for the accommodation of all the various domestic fabrics of the farm-house, dairy, &c. A large ladies' saloon, a large house for office use, a vegetable exhibition hall, &c., and five large refreshment houses. All the ground is enclosed with a high board fence, and the whole line of the fence inside is occupied by stalls and pens for cattle, horses, hogs, sheep, &c. There are nine hundred stalls and pens, all substantially built, and under roof. The high ground or grove is, to a considerable extent, occupied by pens for poultry, sheep, &c. Besides the Society's buildings, there are two others built and occupied, one by Mr. Whitman, the other by Messrs. Sinclair & Co., for the accommodation of their extensive collections of agricultural implements, and add greatly to the effect of the scene. The property having been purchased by a stock company for the use of the Society, it will be improved and arranged with a view to permanency.

The exhibition of improved cattle was very imposing, and comprised all the various breeds of any note; improved Durham short horn, Devons, Ayrshires, Holsteins, Alderneys, &c., to the number of about four hundred head. Numerous horses for farm purposes, of light and heavy draft, mules and jacks, embracing many of the most useful breeds known, were exhibited. The number of the various breeds of swine was very great, and finer specimens could not be produced anywhere. The writer felt much gratification that it did not fall to his lot to act on the committee of judges to award premiums for *the best* in this department, it would have been so difficult to select any ten out of the several hundreds that were entitled to much preference. All the various breeds of sheep were also there in great numbers. The new Oxfordshire sheep attracted great attention; but the most remarkable sheep were those exhibited by Mr. Bingham of the State of Vermont, being three French Merinoes, lately imported by him. These came too late for competition, but afforded much gratification. The poultry pens were supplied with a very extensive collection of the feathered tribe, of every known breed. Thousands of well informed people expressed astonishment at the great additions and improvements that have been made in this department of rural economy. The collections of implements and machines exceeded, beyond measure, anything heretofore seen. Every description of machinery used in agriculture and the domestic arts was there in great profusion. Threshing machines, worked by horse and steam power, mills for grinding corn, and corn and cob crackers and grinders, straw and hay and root cutters, &c. &c., a list of all of which, a mere catalogue, would occupy a whole year's publication of The Cultivator. The *portable* sawing machine of Mr. Page, however, ought to receive special notice, as it is calculated to effect a wonderful improvement in the whole country, in facilitating the construction of plank roads. It is easily transported to the spot where the timber grows. Is worked by either steam or horse power, and cuts the plank of any desired length and thickness, with wonderful precision and speed. With these saw mills on the lines of projected plank roads, the construction of these most valuable improvements is rendered both cheap and easy. The time is at hand when plank roads will be as important to the country at large, as railroads themselves, if indeed not more so. They will everywhere be used and will form the connecting tracks between farms and small towns and feeders of railroads, and this saw mill of Mr. Page will be the active agent in their construction.

In conclusion, I regret that the Editors of the Cultivator could not have been here to see this our great exhibition. I inclose a detailed list of the premiums awarded, and from this you may judge somewhat of the extent of the exhibition. I do not suppose you will be able to find room for it in The Cultivator, even if you have time to count the number of premiums.

Farming in Delaware County, N. Y.

Eds. Cultivator—Having just returned from attending the meeting of the Delaware County Agricultural Society, held at Delhi the 8th and 9th of this month, I thought I would jot down some few remarks growing out of the occasion. Slight and unimportant as they are, they may at some busy moments answer the imperative cry of "copy," when you could not, otherwise, conveniently attend to it.

A stronger and more real motive, however, is that in this day of intelligence, when the enlightened farmer is sensible that an agricultural paper is as necessary to his business as an almanac. I know of no way in which I can so well venture a few suggestions to the rising Scotch agriculturists I there met, as through the medium of the "Cultivator"—presuming always, that a community, apparently so bent on advancement, would not neglect so important an assistance. Indeed, I am inclined to estimate the intelligence and advancement of a rural district, in some degree, by the number of agricultural periodicals it requires.

From Morris to Oneonta, we had a beautiful drive over a fine road. Here we crossed the Susquehanna. Leaving it to wander down its own fertile valley, we commenced clambering our way over the rough and stoney mountains of Davenport, thence dropping into the little valley of the Oleout, we soon recommenced our toilsome way to the high lands of Merideth. Here the scene changed, and our view opened on well cultivated fields, regular enclosures, and comfortable homesteads. A handsome residence, with a fine farm of eight hundred acres, was pointed out to us as belonging to S. A. Law, Esq., president of the County Ag. Society, and whose great exertions, in common with those of some few others, have, I am told, infused an energy and vitality into the society, that promises higher results than have heretofore been attained.

We now had descending ground, and a tolerable road into the pretty village of Delhi, which we reached about noon. I will here remark, that had we returned home by the same road, we might well have wondered what interest or what object there could have been in either claiming or defending such lands; but returning, as we did, by Franklin, we were shown a very improved face of the county, and we could not sufficiently admire the industry, perseverance and skill, which had thus tamed down and subjected to the plow such wild lands.

After dining at a most comfortable and excellent hotel, belonging to Judge Edgerton, we walked to the ground enclosed for the Exhibition, where we found a variety of stock from breeds, evidently selected with that good sense and judgment which gives due consideration to the circumstances of climate, culture and character of the farms on which they were to be placed. In the various sheep pens, were to be seen some admirable "Cheviots," showing purity of blood and great constitution; near them were a few good South Downs, ready to enter the lists with their hardy rivals of the mountain, and claiming something on the score of earlier maturity. There also was to be found the little Saxon and its various Merino crosses, wrapped in their light but beautiful coats of exquisite wool; a dress somewhat more aristocratic, I must allow, than the frieze jackets of their Highland and English neighbors; but winter, sharp biting winter, will decide their relative value. Two French Merino lambs were also on the ground, from the flock of Mr. F. McIntosh, of Otsego co., which created much speculation and no small inquiry, this being quite a sheep district.

The display of working oxen told its own story, for with the exception of a few yoke, they were ill-matched, ill-trained, and ill-conditioned, and evidently of small account with the Scotch farmer, who undoubtedly finds his team of small active horses much more suited to his hill-lands, than the slow, heavy movement of oxen.

The cows exhibited, were, I doubt not, remarkable for the *dairy* properties for which they were shown, and this is as it should be. They were, (as all deep milkers must be,) light in condition, and not moving masses of flesh, hardly yielding milk enough to cover the bottom of a pail, but making beef instead of butter; and yet I have seen such immensely fat animals take premiums as "*cows*" over those that *did make butter*, and consequently could not *cover themselves up in fat*.

Dairying, which admits the active labor and co-operation of a whole family, (from the "chiel" who drives the cows to the byre, up to the bonnie lassie who helps her mother milk) is well suited to the industrious habits of this people, and is pursued by them to a great extent, and with such attention, care and economy, as secures a profitable and ready market for its products.

Tenacious as the Scotch may be of habits acquired in their father-land, (and better habits no people need bring with them,) I nevertheless find that the wooden milk dish has for the most part given way to the neat tin pan of the Yankee, saving the "gude wife" much time and trouble in washing, airing and drying; and something too has been conceded on the absolute necessity of every pan standing on an *earthen floor*, a creed strongly insisted upon in Ayrshire.

Before leaving this portion of my subject, I will again repeat what I suggested on the spot—that the dairy farmers should form amongst themselves a company for the importation of "Ayrshires." Let them be yearling heifers, or "queys," as they are called, from the "Mooredge," selected by one of themselves—not from the "*improved*" families at high prices, but bought in fairs at the now moderate cost of five to seven pounds a head; and ship them, direct from Glasgow in a vessel belonging to that port, which will take them at a very moderate freight; the shippers providing all necessary fodder and *water*—the ship furnishing casks by *agreement*.

Having a brother whose estates lie in Ayrshire, I made myself well acquainted with the breed of cattle, and consider them, in their own pastures, a *most valuable dairy* stock—how they would *transplant* is the experiment to be tried; and I know no community nor any district to whom its success would be so important; or who, proving it successful, would derive more advantage, or more decidedly establish the value, in this country, of the Ayrshire breed as a *dairy* stock.

In the county of Delaware, where oxen are neither fed nor worked to any extent, and the cow is only valuable for her dairy properties, everything should give way to this excellence, and therefore size is undesirable, early maturity is not of much importance, and the feeding property quite a secondary consideration, if either the one or the other is found to interfere with the milking qualities.

The plowing was of course most excellent. It is the very pride of a Scotch farmer to do this part of his work well; he considers it the foundation of all good farming. In the Butternuts we are especially indebted to our Scotch neighbors of Burlington, for a vast improvement in this particular, and now our young American farmers press close on the heels of their instructors.

But very few swine were on the ground. In a dairy country I had expected a larger show of this most useful animal, as but few calves, comparatively, are now raised in Delaware. Nevertheless, two fine sows, with their litters, showed a thorough knowledge of this description of stock. Of horses, I have still less to say—though I doubt not they were well suited to the country and its work,—small and active, they travel this hilly country with much more ease than a heavier and larger horse.

Possibly, some might have felt disappointed at not finding here stall-fed oxen, monsters in obesity—fine, large, high-headed and high fed steers in the yoke—Shorthorns, imposing in size and beauty, or sheep of the long-wooled families, heavy but indolent; I was, however, better pleased by observing the close attention which had been paid to that important principle in all good breeding, of "*suiting the animal to the soil*"—a point too frequently over-looked by purchasers of fine stock, who at the moment may be more attracted by the individual excellence of an animal, than mindful of the suitability of the position to which they contemplate transferring it.

R. *Morris, Otsego co., N. Y., Oct.* 11, 1851.

◆

Characteristics of the Season, 1851.

The spring, in the Northern States, was cold and backward, and even through the summer months, the amount of really warm weather was less than usual. May, June, and August were characterized by an unseasonably low temperature. July and the fore part of September were warm,—the season presenting in this respect singular contrasts. A marked contrast has also been afforded between the present and last year, in regard to the amount of rain which fell during summer and autumn, as will be seen by the following comparison

	1850. Inches.	1851. Inches.
May,	6.01	2.61
June,	5.72	4.57
July,	8.57	3.48
August	2.50	2.17
September,	6.56	1.27
October,	4.31	2.93*
	33.67	17.03

There has been no season within the recollection of the "oldest inhabitant," perhaps, when so large a portion of the country has experienced to the same extent as this year, the effects of drouth, though there have probably been years when more damage, in the aggregate, has been done to crops from this cause. The drouth has extended from Virginia and Kentucky northward to the Canadas. Within this extent of territory, however, there are belts and small tracts, which have been so favored with occasional rains, that vegetation has received nearly a supply of moisture. Streams and springs are very low at this time, (Oct. 29,) and unless copious rains should fall before winter sets in, much inconvenience will be experienced.

---

* Of the amount in this month, 1.42 inches fell on the 29th and 30th.

Hay was a full crop, coming off in most sections before the drouth had become severe. The quality is generally good. It is fortunate that the country is well supplied with this important article, as, from the scarcity of grass, farmers have, in many instances, been under the necessity of feeding their stock considerably from the barn or stack, for several months.

Wheat gave a good return over nearly the whole country. The yield was somewhat lessened by drouth in the Southern States, but even there, the superior quality of of the grain fully compensated for any deficiency in quantity. In almost every section, with the exception of Wisconsin and a portion of Illinois, no complaint has been heard in regard to this crop. In the eastern part of New-York, and in fact throughout all the eastern part of the country, so large an amount of this grain has not been obtained for many years, and taking the whole country together, the aggregate product is doubtless beyond any former precedent. The great success which has attended the culture of wheat in the eastern part of the country, within the last year or two, is owing in a great measure to the adoption of a variety of wheat, the Mediterranean, which, from its habit of early ripening, has escaped the wheat-midge, an insect which for several years almost totally destroyed this crop. This enemy is gradually extending itself west, and in the western counties of this State, and in Ohio, has done considerable injury the last and present season.

Rye has been less cultivated, in what have been considered the particular districts for the production of this grain, than formerly, because the farmers have returned to the culture of wheat—the latter yielding the most profit. Rye, however, gave about its usual yield.

Barley yielded much better than last year, and the quality of the grain was also superior. The crop has sold at a fair price, nothwithstanding the large yield. The market was chiefly cleared of the old stock before the new came in. Prices have lately ranged from 75 to 80 cents per bushel.

Oats were better in this vicinity, both as to yield and quality, than last year, but as far south as Virginia and North Carolina, the crop was hurt by drouth. This crop is regarded with much favor by many farmers. It can be produced in many situations where other grains would not flourish, and it meets with a ready sale at a price comparatively high—40 to 42 cents per bushel being frequently obtained, in the valley of the Hudson river, for oats that are brought early into market. They are always in demand as horse-feed—experience having shown that there is no food so congenial to the animal, being easy of digestion, and imparting both strength and spirit.

Indian corn has fallen short of an average yield over a large portion of the country. This deficiency in the Middle States was caused chiefly by drouth, but in the northern sections, we are inclined to attribute the failure more to the coldness and wetness of the weather in May and early part of June, in connection with the great injury done to the crop in its early stages by the wire-worm. Heavy rains were frequent in this section soon after planting, and continued for some time while the crop was small. The rains were followed by high, drying winds from the west and north, which by rapid evaporation caused the soil to become heavily consolidated, with a hard crust on the surface. This state of the soil, with the cool temperature, and the attack of the wire-worm, so checked the crop that it never fairly recovered, except in very favorable locations. The crop was backward, in ripening, and but for the unprecedented heat of the first twelve days of September, (the maximum height of the mercury having been for several days above 90°, in the shade,) it would not in this part of the country, have escaped injury from frost.

Potatoes, as usual, are more or less affected by the rot, though we think the crop is more sound, and the yield generally better, in the eastern part of New-York and in the New-England States, than for several years before. In the western part of this State, however, the rot or disease, has prevailed to a great extent. Nothing new, of importance, has been brought out in reference to this malady, except that many new conjectures in regard to it have been proved to be unfounded.

Buckwheat, so far as we have learned, is almost a total failure. In a large portion of New-Jersey, and in parts of Pennsylvania and Maryland, it is a crop of considerable consequence, and in these sections it was cut off by drouth.

Fruits have succeeded well in some sections, while in others they have failed. Throughout a large portion of the Western States, apples, pears, cherries, &c., were mostly destroyed by a frost in May. In the northern parts of Ohio, Indiana, &c., we are informed, there is a partial crop of apples. In New-Jersey, the southern portion of Pennsylvania, Maryland, &c., there is a greater scarcity of apples than has occurred for several years. Whether the failure in the latter districts was caused by frost, we are not informed. In New-York and New-England, we believe fruits in general have succeeded well. Winter apples of fine quality are plenty in market at $1.50 to $1.75 per barrel. Plums, a crop of considerable value in the vicinity of Albany, were abundant, but hardly of as fine a quality as usual, for the want of warm weather while they were growing. Grapes, in the open air, have not attained their usual flavor from the same cause.

HOW NATIONS CAN ACQUIRE WEALTH.—There seems to be but three ways for a nation to acquire wealth: the first is by war, as the Romans did, in plundering their conquered neighbors—this is robbery; the second by commerce, which is generally cheating; the third by agriculture, the only honest way, wherein man receives a real increase of the seed thrown into the ground, in a kind of continual miracle, wrought by the hand of God in his favor, as a reward for his innocent life and his virtuous industry.—*Benjamin Franklin.*

The Mineral Manure Theory.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., Oct. 24, 1851.

EDS. CULTIVATOR—The subject which I have placed at the head of this letter, is not one which can be fully discussed in a single page of your journal; and yet it is one of so much importance that I desire to make a few explanations and statements, regarding the shape which it has now assumed among scientific men. When I mention the "mineral manure theory," I speak of that view of manures which ascribes all, or nearly all, of their efficacy to their mineral constituents.

The principal supporter, and indeed the originator of this theory, is Prof. Liebig. This distinguished chemist, distinguished no less by his clear and lucid style, than by his high scientific reputation, was for a time devoted to "the ammonia theory," excluding those mineral manures to which he now attaches so much importance. A few years since, however, he saw cause to change his ground, and has since held, that if we furnish mineral manures in abundance, plants will, without doubt, always obtain their ammonia, or rather their nitrogen, from the atmosphere or the soil.

In pursuance of this idea, he went so far as to compound, after careful study of ash analyses, specific mineral manures for wheat, rye, oats, turneps, &c., which were to take effect upon all soils in a proper physical condition. The failure of these specific manures, which were patented in England, was, as many of your readers doubtless are aware, very decisive. I had supposed the subject rather at rest, but find that in the last edition of Prof. Liebig's "Letters on Chemistry," published so late as the commencement of the present year, he reiterates his former views on this subject in a most decisive manner, and prophecies that our future agriculture will depend upon them, however much we may distrust and disbelieve them now. I have also had occasion to observe quite recently, that some gentlemen of high standing among our own scientific men, follow Liebig in this as well as in other theories. For these reasons I have thought it best to express my own opinions on this contested point, in order that our farmers may be aware, that all chemists do not hold to views which militate almost directly against the ordinary results of practice.

My belief is, that when Prof. Liebig advocated "the ammonia theory," he was nearer right than he is now, when he only admits the necessity of mineral manure. Not that he was right then, but that better results would, in most cases, be obtained by the farmer in the use of ammoniacal or nitrogenous manures alone, than by the use of mineral manures alone. We find land in all parts of the country, where strictly mineral applications, such as lime, plaster, marl, &c., fail to produce any very marked effect; but if upon any of our fields we apply guano, or sulphate or carbonate of ammonia, the character of the vegetation is at once changed, its color alters, its luxuriance and vigor increases, and in a great majority of cases the product is augmented.

Every farmer who has observed such matters intelligently, knows that the above statements are correct; indeed they have been so far applied in practice, that the quantity of ammonia which any manure contains, is taken as the highest standard of its value. A guano, for instance, with the usual percentage of ammonia, will bring twice as much as one which contains little ammonia, even though this deficiency is replaced by the most valuable possible mineral constituents.

I must not be understood to say, that mineral manures are not valuable; on the contrary, I have the highest opinion of them, and recommend their application in almost all cases where my advice is asked; the mineral constituents of the plant are no less indispensable than its organic part, and if one or two of them are absent from the soil, the plant will not flourish. There are many instances of these special deficiencies, which special mineral manures alone will supply, and there are certain mineral substances which have been found specially valuable; the most so of all these is phosphoric acid. Now, the *phosphates*, that is, the compounds of this acid, are not more necessary to the plant than are the *alkalies*, but the supply is far more apt to be scanty, and this—not its intrinsic importance to the plant—is the cause of its higher value to the farmer.

The same principle applies when we say that nitrogenous manures, of which ammonia is the most common form, are more valuable than any others known in agriculture. They are volatile, easily decomposable, and very soluble; for all of these reasons they are extremely apt to disappear most rapidly. These manures, then, are worth more to the farmer than any others, because they are most likely to be needed, and because their scarcity renders it somewhat difficult to obtain a full supply. I make these statements fearlessly, and confidently, although against so high an authority as Liebig. I should not presume to oppose him on mere theoretical grounds, but feel that I am here sustained by almost uniform practical results.

It must be acknowledged that we have occasional instances reported, of plants grown upon soils nearly or quite destitute of vegetable matter; but in most of these that have fallen under my observation, the fact of the *entire absence* of vegetable, and particularly of nitrogenous matter, has not been sufficiently established. The information that they give is neither entirely definite, nor well enough made out by continuous and careful experiments, to be set off against the immense array of facts brought forward in favor of the opposite view. Single experiments for a single year, must always be looked upon with distrust until amply verified, and it is by mainly trusting to such, so far as we are informed, that the exclusive mineral theory has been built up. The laboratory alone is pretty sure to go wrong when it attempts to prescribe rules for practice; the chemist must go into the field and study actual experience, if he would serve the farmer effectually.

It has been my intention to experiment somewhat largely upon this particular subject, but in the last number of the Journal of the Royal Agricultural Society of England, is a paper by Messrs. Lawes and Gilbert, that almost precludes the necessity of doing anything more. These gentlemen have been experimenting on a large scale during the last ten years, and their results are clearly and admirably set forth.

They took a field at the close of a four years rotation, when the manures added at the commencement of the course were exhausted. On this ground they have cultivated wheat for ten years, under various conditions. One plot remained unmanured, and the produce of this served as a standard and starting point for comparison during the whole period. Thus, if its yield in 1845 was 17 bushels per acre, the improvement over this in an adjoining plot, otherwise the same, was set down to the advantage of whatever manure had been employed. Such a system of cropping, continued for so long a time, obviously affords results that are worthy of much confidence.

The first year's comparative practice, was made with various approved mineral manures alone. It was found that even by the addition of large quantities of these, the increase of product over the unmanured plot was but trifling. In the next year the same character of mineral manures was employed, but with the addition in several cases of ammoniacal or nitrogenous substances; in all of these the effect was quite marked, the yield increasing to 10, 12, and 14 bushels, above the unmanured plot.

This, in short, was the character of all the results; sometimes ammoniacal manures alone were added, and then the increase was several times more than by mineral manures alone. One experiment was very striking. Four hundred weight per acre, of Liebig's special mineral manure for wheat, was applied to a plot, and produced an increase of but about two or three bushels; upon this same plot, in the next year, a purely ammoniacal manure gave an increase of ten or twelve bushels. To make the experiment still more conclusive, no manure was added to this plot for the next crop, and the yield then fell again almost to the original standard. These trials seem to me perfectly conclusive in this matter, so far as wheat is concerned; they prove that ammoniacal manures increase its growth far more than mineral manures, where both are already present in moderate supply, and that the addition of any amount of the latter will do little good, unless the former be also present.

These views are still farther sustained, by a very able paper in one of the late French Scientific Journals. The experiments in this case was made upon oats, and were between forty and fifty in number. They commenced by growing them out in sand, first deprived of everything soluble by acid, and then burned to drive off all vegetable matter. In this, as might have been expected, no perfect plants were produced. One mineral substance after another was added, until at last it was found that with a certain *seven* of them, the plant flourished better than with any others. It, however, was still far from luxuriant, or from yielding a fair amount of grain; it was not until some manures containing nitrogen had also been added, that entirely healthy, fertile and strong plants were obtained. These experiments appear to have been very carefully conducted, and furnish important confirmation to those of Messrs. Lawes and Gilbert.

There are other questions involved in these experiments, which for want of space cannot be discussed here; the main point is, I think, fully established. The farmer may supply special deficiencies by special mineral manures, and should aim to keep up the supply of mineral substances in the soil; but he cannot render it fertile, and continue it so, with them alone; he must also supply nitrogen in some form, and will find it in a great majority of cases the most important and efficacious of all fertilizers. In despite of *theoretical* views to the contrary, he will find that in *practice*, he can best afford to give a high price for those manures that are especially rich in ammonia, or some other compound of nitrogen. Yours truly, John P. Norton.

Close of the Great Exhibition.

An exhibition of the industrial products of all nations may be considered a new feature in the world's history. Hitherto the strife of nations has chiefly been to circumvent each other by the game of war. The present year will even be remembered as marking the time when the first great step in checking this selfish and aggrandizing spirit was taken—when in compliance with a cordial invitation from one of the greatest reigning powers of the globe, all nations were assembled, by their representatives, for the purpose of comparing the progress of each in those arts which conduce to the welfare and happiness of man.

The general effect of this exhibition cannot but be salutary on the world at large. Its tendency will be to promote peaceful relations, to do away monopoly, and to diffuse useful knowledge among men. The *London Morning Chronicle* well remarks—"We have, as yet, no standard whereby to measure the probable consequences of the gigantic undertaking. It has shown to the nations of the world what each can do,—animating, inspiring, and instructing all. National prejudices, antipathies, and animosities, have given way before the 'natural magic' of its influence. A mighty lesson has been unfolded for mankind, bidding all to note the wisdom, and the goodness, and the glory of Almighty God. The lesson cannot, will not, have been read in vain."

The description of the exhibition has formed a prominent topic in the newspapers and periodicals of the day, on both sides of the Atlantic, and most of our readers are sufficiently informed, through the letters of Mr. Johnson, which we have published, and from other sources, in regard to the most interesting particulars. It was finally closed on the 11th of October.

Total number of visitors, 6,201,856.

Receipts.

Public subscriptions,	£64,344	0	0
Privilege of Printing,	3,200	0	0
do Supplying Refreshments,	5,500	0	0
Season Tickets,	40,000	0	0
Received at the doors to 11th of Oct.,	356,071	13	0
Total,	£469,115	13	0

The liabilities amount to £170,743, thus leaving an available surplus of £298,372 13s.

The awards of Council or Great Medals, to our countrymen, were as follows:

Joel Borden, Jr., Texas, for a preparation called Meat Biscuit.

David Dick, Meadville, Pa., for Anti-friction Press.

C. H. McCormick, Chicago, Ill., for Reaping Machine.

Wm. Bond & Son, Boston, for the invention of a new mode of observing Astronomical Phenomena.

Charles Goodyear, New-Haven, Ct., for India Rubber Fabrics.

Produce of Twelve Acres.

Eds. Cultivator—I am induced to give you a short description of a piece of land near the Niagara River, on the farm of Moses Cherry, Esq. The land in this neighborhood is rather peculiar. That portion where black-ash timber grew, though wet and swampy, is excellent land when fully drained, even with open drains; while the land nearer the river, and on either side of the ash tracts, is poor and scarcely worth cultivating. On the portion where the black-ash grew, is a friable, mellow loam, of seven or eight inches, or even a foot in depth, resting on a tenacious subsoil. On the dried soil surrounding these swamps, is a stiff barren clay, into which the roots of plants can penetrate only with difficulty.

The following is the produce of twelve acres cultivated by Mr. Cherry last season.

800	bushels of corn in ears, sold at 25c.,	$200 00
750	do potatoes at 50c,	375 00
135½	do wheat at 100c.,	135 50
		$710 50

Mr. Cherry had 35 acres of wheat this season, (1851,) which averaged upwards of 30 bushels per acre. In the management of his land, his first object is to drain the surface, fairly, which has been done so far mostly by open drains, and thus managed, the produce is abundant. Wm. H. Sotham. *Black-Rock, Oct.* 17, 1851.

◆

Laying-in Trees for Winter.

A correspondent wishes to know the best mode of preserving removed fruit trees, intended for spring planting, from mice and severe frost during winter. In answer—set them *upright* on the surface of the ground, or in a moderate hollow dug for the purpose, and then bank up the earth into a broad mound about them, raising it well up the stems. Mice will never ascend a fresh bank of earth under snow. The trees should not be placed so compactly together as to prevent the earth from filling in pretty well among the interstices. If rather tender, incasing or thatching with two or three inches thickness of any evergreen boughs, will afford good protection from severe cold.

◆

Large and Small Potatoes.

Eds. Cultivator—I perceive, by recent communications in your paper, that although potatoes have been raised for more than two hundred years, it is still disputed whether large or small ones are the most profitable to plant for seed. Being myself in the dark on this point, I concluded to contribute my mite towards the solution of the problem by submitting it to the test of experience.

On the thirtieth of April, 1851, I planted, on one square rod of land, in seventy-two hills, seventy-two small potatoes, from the size of a hickory nut to that of a hen's egg. The seed measured about two quarts, and weighed three and a half pounds. To plant an acre in this manner would require ten bushels of seed. On the same day, on a square rod adjoining, I planted seventy-two large potatoes, in seventy-two hills, placing one in each hill, without cutting. The seed measured more than a peck, and weighed fifteen pounds.

On the twentieth of August, I dug both patches. The product of the small potatoes was five pecks, weighing eighty-four pounds, which would give a yield of two hundred bushels to the acre. The product of the large potatoes was one hundred and fifty-eight pounds, measuring nine pecks, which would give three hundred and sixty bushels to the acre. The vines averaged four to each hill, while those of the small potatoes were only three. The vines from the large potatoes grew much faster and larger than the others, but in the size of the potatoes there was no great difference.

When I planted the two patches, I expected the product would be about alike. Not being yet satisfied that so great a difference will always result, I shall try the experiment again next season.

Last year there was no rot among the potatoes in this part of the country. The early part of the season was cold and very dry. The same kind of potatoes on the same farms, with the same cultivation, are now rotting badly. I attribute the prevalence of the rot to the great amount of rain that has fallen here the present season. T. F. *Scio, Mich., August* 23, 1851.

◆

Protecting Tender Roses.

The Prairie Farmer has for several years successfully protected tender roses by covering them with tan-bark, and then shielding the tan-bark from rains by a covering of boards. A Tea rose, which had always stood without injury by this treatment, was accidentally deprived of the shelter of the boards, by which the tan became soaked with rain, and the plant was destroyed. For the same reason, the soil must be well drained. Stripping off the leaves before covering, prevents their decay in contact with the stems, an occurrence often causing portions of the bark to blacken with decay.

ANSWERS TO INQUIRIES.

Intermixture of Varieties of Corn.—Tyro, Greenfield, Mass. If common and sweet corn are planted side by side, smooth grains will, as you say, be found on the ears of sweet corn and shriveled grains on the ears of the common corn. If you take the smooth grains from the ears of sweet corn, and plant them by themselves, the produce will be various—most of the grains will show of the character of the sweet corn, seldom being as hard and flinty as the original flint stock; some will, probably, be more or less shriveled. If the shriveled grains are taken from the ears of common or flint corn, and planted by themselves, the crop raised will also show the intermixture of the varieties; there will not be a strict uniformity in the produce, some grains being almost identical with the pure sweet corn, others of a medium, or half and half character, others scarcely deviating from the parent flint. But the result of the mixture can be worked out, in the course of several generations, so that it will scarcely appear, by carefully selecting for seed the grains which most resemble the original stocks, and planting them where there can be no further amalgamation. By a similar course, a new hybrid variety can be produced. Many varieties are known to have thus originated. The Darling sweet corn may be named as an example. This was produced by a cross of the sweet with the early Canada corn. The seed of the hybrid variety was taken from the stalks of the Canada—the object being to produce a sweet corn with the habit of growth, or early maturity of the Canada. The shriveled grains which most closely resembled the sweet corn, were picked out of the ears of the Canada, a crop raised from them, and the sweetest grains again picked out of this crop, and so on, till after eignt years' careful selection, the new variety became well established.

Cabbage and Turneps for Milch Cows.—D. B. R., Dutchess county, N. Y. There is perhaps no crop which would afford a larger amount of food than cabbages, but they, as well as turneps, are likely to impart a disagreeable taste to milk and butter. Pumpkins are excellent to feed cows, and by being protected from frost, may be kept till December, or later. Carrots are preferable to any other roots for this purpose.

Mixing Ashes with Manure.—" A Lover of Farming," Walpole, N. H. " Do wood ashes operate on manure in the same manner as lime?" Lime tends to liberate the ammonia of manures, by combining with the carbon with which the ammonia was previously united, thus setting free the latter. According to Mr. Bartlett, whose communication is given in our November number, wood-ashes have a similar tendency to liberate ammonia. We cannot refer to any experiments made to test this point. It is not improbable that something of the effect mentioned, may take place from a combination of the carbon of the manure with the potash of the ashes, which would separate the ammonia from its union with the carbon. Potash, however, greatly promotes the solubility of carbonaceous substances, and is highly beneficial from this action. At present we are inclined to think that wood ashes, mixed with strawy stable manure, at the rate of a bushel of the former to a cart-load of the latter, would be on the whole beneficial. But accurate experiments on this point are desirable.

Hops.—" F.," Wheeler, Steuben county, N. Y. Your best way to obtain a knowledge of the cultivation of hops, would be to go into some neighborhood where they are grown, and personally examine the whole process. The roots could be packed in boxes or barrels and sent to any part of the country. You will find an article on this subject in our volume for 1847, pp. 82, 83.

Budding on the Black Cherry.—R. H. We have seen the cultivated cherry, engrafted on the black, but it did not do well. We have heard of some attempts at budding on the black stock which did not succeed. If the union of the two were practicable, we cannot see that it could have any advantages over budding on the mazzard stock.

NEW PUBLICATIONS.

Harper's Magazine for November is before us. It is well sustained, and will do much in forming a taste for a higher literature than has heretofore been the burden of our leading monthlies. It is difficult to particularize articles, where all are pleasing and instructive. The biography of Napoleon is replete with interest, and shows in its true light his transcendant genius as a general, and his wonderful ability as a statesman, in combination with rare virtues. The " Editor's Table," " Easy Chair," and " Drawer," display a marked originality, to say nothing of the wit.

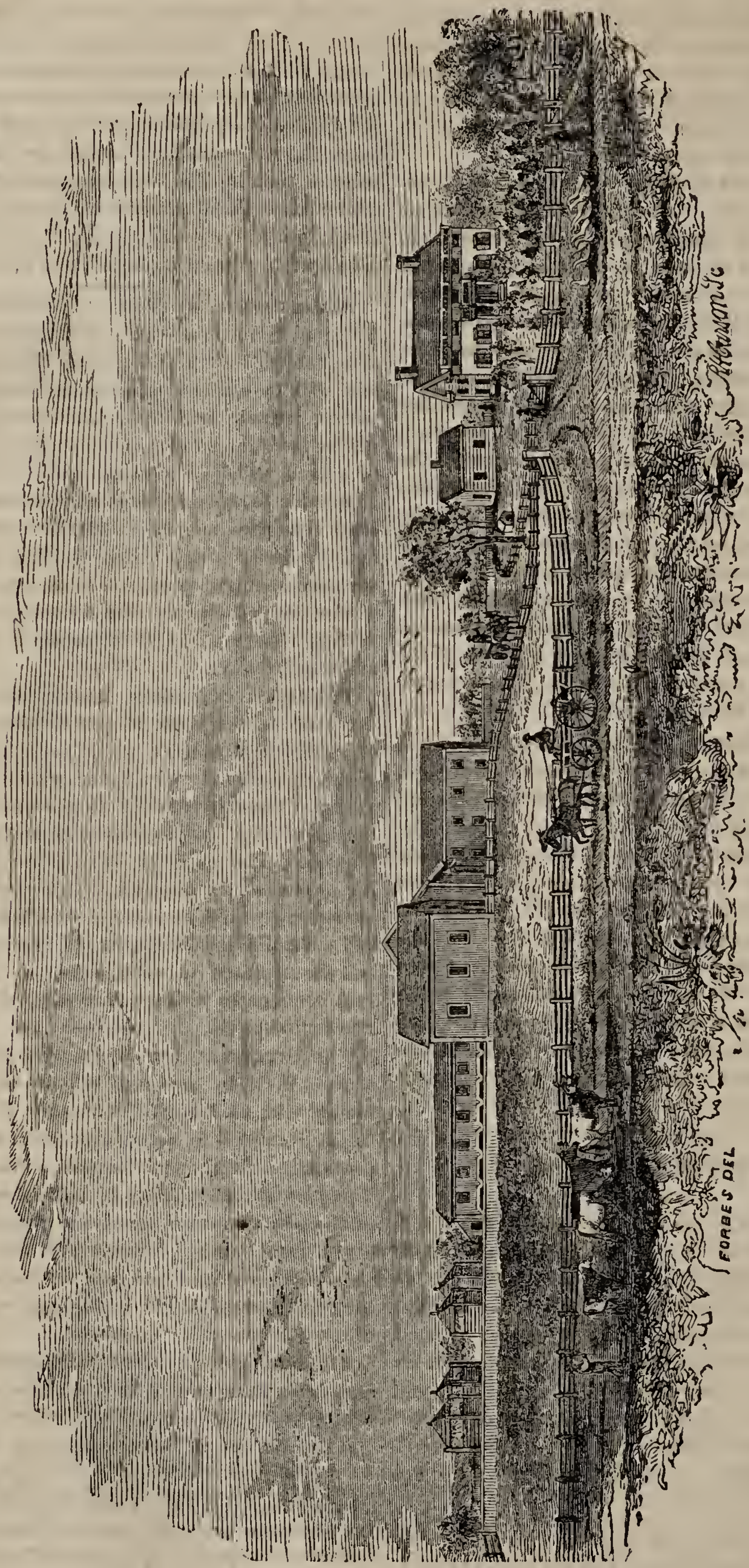
Glances at Europe, by Horace Greeley.—We are indebted to the publishers, De Witt & Davenport, New-York, for a copy of this work. Perhaps it is a sufficient commendation to say that the book has the original stamp of its author. It certainly forms an epoch in Journals of Travel. Most American travelers seem to have thrown up their peculiar views and in-bred sentiments, on the ocean passage, and straightway fall in love with some " gray old tower," or other age-honored structure; but Horace Greeley *Americanises* everything. A free, independent, radical thinker, as he is, he praises all he finds to admire, and censures what he cannot approve—appropriates all the good, and frankly exposes the bad—tells facts as they are, and truths as he believes them. The book will not fail to instruct the reader in the social and political aspect of the European states, and will especially please those who like an honest sincerity, even if it conflict with private opinion.

Rural Homes, by Gervase Wheeler. New-York, Charles Scribner.—This adds another, to books designed to cultivate Architectural Taste, and assist those who wish to combine neatness and elegance with convenience, in their dwellings. The author claims, as the distinctive, original idea of the work, " the embodiment of a fixed principle in rural architecture," capable of adaptation to all conditions and circumstances. The volume comprises models of buildings, means of warming and ventilation, plans for harmonising the dwelling with the surrounding scenery, and hints in the selection of furniture, &c., concluding with a theory of rural architecture as a fine art, and its influence on the mind, heart, and social virtues.

The Horticulturist.—Among other notices of publications, showing signs of better things in the literary and scientific world, we would not forget one, that has grown up under our own fostering care, The Horticulturist. Closely restricted to its own sphere, it has the " spice of life," which originality imparts to any production. The extensive horticultural information of Mr. Downing, his discriminating power, and easy, flowing style, give him an enviable rank in the editorial corps, and make the Horticulturist the *text-book* in rural art, and the *standard* in rural taste. A new volume (the 7th) commences with the new year. Price $3 a year—two copies for $5.

The International Magazine—published monthly at New-York, by Stringer & Townsend—leads off this month, with an extended description of the Fair of the N. Y. State Ag. Society, illustrated by several well executed engravings, from the pen of Horace Greeley. This periodical is enriched by original articles from some of the best American prose and poetical writers. Extracts from foreign literature—a record of important news at home and abroad, and notices of new and valuable publications. It has a wide and extending circulation.

Pioneer History of the Settlement of Phelps and Gorham's Purchase, is the title of an octavo volume of 620 pages, by O. Turner, Esq., whose " History of the Holland Purchase," we noticed a year or two since. This work embraces the history of the entire center of Western New-York, and shows the indefatigable efforts of the author in the collection of every thing tending to illustrate the trials, character and energy of the first settlers of the " Genesee Country." It is a most valuable contribution to the general history of the state, and will be read with lively interest by the numerous descendants of those whose history it delineates, and who are now scattered over our wide-spread country—for, fruitful as is the celebrated Genesee Valley, it has sent forth its thousands to aid in subduing the ever receding " far west." Published by Wm. Alling, Rochester


Richardson Sc
FORBES DEL

Farm Buildings of D. D. T. More, Middlebrook Farm, Watervliet.

Farm of D. D. T. More.

This farm, which received the second premium of the New-York State Agricultural Society in 1850, is situated in the town of Watervliet, on the Albany and Mohawk Plank Road, two miles from Albany. It has been in Mr. MORE's possession and occupancy for the last six years, and during that period has presented one of the most striking examples of successful and profitable improvement that we have ever known. Previous to Mr. M.'s purchase, it had been for fifty years subjected to an exhausting course, under the leases of various tenants—the annual rent of the whole farm being but one hundred dollars, and that deemed too large a sum by the tenant—as the whole amount of produce was only worth $400 to $500 a year. Mr. MORE, in fact, bought the place in opposition to the advice of all his friends, who deemed it impossible that the land could afford him and his family "a living." But notwithstanding the soil was so much reduced, that, in Mr M.'s language, almost the only crop he could raise at first was white beans, his clear judgment and practical knowledge of agriculture induced him to make the purchase, at $60 per acre, and the result has more than realized his anticipations. The benefit of his good management has been of no small value in the promotion of improvement in his neighborhood. His "good works" have stimulated others to "do likewise," and much of the land adjoining his, and which, at the commencement of his operations, was in a similar condition, has advanced in price more than 100 per cent., and is made to yield a bountiful return for good cultivation.

Mr. MORE has accomplished his results under many disadvantages. For a large portion of the time since he began, he has been in feeble health, and has been only able to exercise a general supervision of his affairs, without attempting bodily labor, but his constant vigilance and care has well verified the maxim, that "the *eye* of the master will do more work than his *hands*." Neither has he derived any benefit from the labor of his family. In his statement to the Society, he says—"My family consists of wife and five children, the oldest but fourteen years old, so that my children have been of little assistance to me—the balance of account being decidedly against them."

When Mr. MORE took possession of his farm, all the buildings on it were reckoned as not worth more than $100, and "the fences had all rotted down, or become nearly worthless." He sold the dwelling for $50, to be taken away, and the barn he pulled down. All the buildings and fences now on the premises have been put up by him. In making the purchase he says—"I paid all the money I had, or could raise, which left me more to pay as interest than the former occupant paid as rent. But notwithstanding I have since put up my buildings, fences, and all other improvements, I have paid the interest, and reduced the principal, besides this year's (1850) profits."

We take from the *Transactions* of the N. Y. State Ag. Society for 1850, the following, from Mr. MORE's answers to questions propounded to the competitors for the premiums on farms:

1. My farm consists of one hundred and eighty-five and a half acres of land. No waste or woodland.

2. Soil, a sandy loam; subsoil, principally a coarse sand; am not aware of any limestone existing on the farm; no stones worth mentioning.

3. I found the best mode of improving my land was by plowing under clover; the growth of the clover was much aided by a liberal application of plaster, say 250 lbs. per acre.

4. My experience is decidedly in favor of deep plowing—not less than eight inches, and often deeper.

7. Yellow and white pine, white and black oak, scattering hickory, poplar and sassafras trees, were the principal trees originally. Sorrel and couch grass were the principal weeds.

8. I find from my experience I derive the most benefit by applying manure as a top-dressing.* I use much of my manure on my rye crop, in the following manner: After the grain is harrowed in, I apply from twenty to twenty-five loads of manure, (double loads, say thirty bushels each,) spread evenly over the surface. I have never failed to get a good crop of rye. The grass seed is sure to take, and the growth is much aided by the manure; the clover being plowed in, leaves my land in excellent condition for a crop of corn. I manage my manure by heaping in the yard, turning it, and keeping it covered with earth, to prevent as much as possible the escape of the gases. I have no cellars for manure under my barn, but have cisterns for collecting the urine.

9. My means of making manure are from the keeping of about thirty head of cattle, and from four to six horses, and mixing in various ways, all the straw that my farm produces. I make in this way about three hundred loads of manure, and usually buy as much more.

10. I prefer to have my manure pretty well rotted. My usual mode of applying manure has been as follows: Plow under clover, plant corn, follow with potatoes, and then rye, with a top-dressing of manure, not so much for the benefit of the rye as for the clover, and future crops. I am satisfied that my land has improved rapidly from this mode, in fact at such a rate that I shall not be able to follow it, so far as the rye crop is concerned.

11. I am not aware of any way of increasing manure cheaper than by purchasing it, being so near to Albany, where it can be bought from twelve to thirty-seven cents per load.

12. I have used lime, guano, and plaster. Lime I have applied to a considerable extent, usually as a top-dressing. Have used plaster, principally upon clover, with much benefit. Guano I consider too dear for common use. Stable manure and lime I consider the cheapest, considering their effects.

13. I tilled this year one hundred and forty-four acres, as follows: ten acres of wheat, thirty-five acres of rye, twenty-seven acres of corn, thirty-five acres of buckwheat, twenty acres of potatoes, twelve acres of broom corn, one acre of sowed corn, two acres of melons, fifty rods of asparagus, and one and one-half acres of strawberries.

14. I have cultivated wheat more as an experiment than anything else, as for the last few years it has been almost a total failure in this section of the country. My manner was as follows: I sowed after potatoes, spring wheat of the Black Sea variety, about the 15th of April; harvested about the 4th of August, at the rate of six and a-half bushels per acre. In the cultivation of my rye crop, I sowed part of it after potatoes, and a part on a clover lay; sowed the last week in August and the first week in September, one a half bushels to the acre; harvested about the 15th of July; product seventeen and a half bushels per acre. The crop was much injured by a hail storm in the latter part of June, to the extent I

---

* In reference to Mr. More's mode of applying manure, it should be remembered that he plows "not less than eight inches deep, and often deeper." Therefore in choosing between plowing in manure to this depth, or top-dressing, the latter is, perhaps, preferable, especially when, as in this case, the main object is to promote the growth of clover. Still, we cannot but regard it as probable, that if the manure was fairly covered with earth, say to the depth of two to four inches, its effects would be greater in the end than if it was left entirely on the surface. EDS.

think of eight or ten bushels per acre. I did not discover much difference between the manured potato ground, and the clover lay, which confirms my previous opinion, that a clover lay plowed under, is about equal to a dressing of manure.

I cultivated corn as follows: twenty-two acres on clover lay, part plowed in the fall and part in the spring. After the clover had got about ankle high, I plowed it deep, passed over with the roller, harrowed well, marked both ways three and a half feet apart, and planted from 4 to 6 seeds in a hill; planted the last days of May and first of June; as soon as I could see the rows I went through with the cultivator; in about a week after, went through with the cultivator again, followed with the hoe, making it perfectly clean, and thinning it to four stalks in the hill. I kept the cultivator stirring the ground as much as possible, till the corn was about three feet high, then went through with the shovel plow, and hilled moderately. As soon as the corn was glazed I cut it up by the ground, and set it up in small stooks. I consider stalks as the most valuable cured in this way. I planted part of the eight-rowed white, and part of the eight-rowed yellow. I found the yellow corn some ten days earliest, but the white yielded best; I did not keep it separate. The whole averaged fifty-six bushels per acre. Five acres of sweet corn I planted the first days of July; the ground was well manured by top-dressing, cultivated the same as the common; picked the 15th to 30th of October. It sold in the market principally, at 62½ cents per hundred ears, amounting to $257.33. The stalks are much more valuable than the other corn, as they contain a larger proportion of saccharine matter.

I sowed this year thirty acres of buckwheat; after mowing, I turned over a clover lay, and sowed between the 15th and 20th of July, about three pecks to the acre. Harvested about the 10th of October; produce eight hundred and thirty-one bushels, twenty-three and three-quarter bushels per acre. On fifteen acres I sowed rye with the buckwheat, which looks well, and bids fair to be a good crop.

I cultivated twelve acres of broom corn, on an island in the Hudson river. In consequence of the late spring freshet, I planted the first week in June, ground plowed deep, well harrowed, rolled and marked three feet apart, and planted with Campfield's Drill Barrow, hills eighteen inches apart, ten seeds in the hill; it was tended much the same as Indian corn, cut when the seed was in the milk, cleaned and cured in the shade, to keep the brush green. My usual crop is about seven hundred pounds per acre. This year, in consequence of having been twice overflowed, the crop is much injured, and will not yield more than four hundred and ten pounds per acre.

One acre of corn I sowed for fodder. Sowed the last of July, cut and fed to the cows through the month of October. I find it excellent for late green feed.

I cultivated two acres of melons; watermelons, citron melon, and preserve citron. Planted the first of June. After the land was put in good order, by deep plowing, I marked out the ground six feet apart each way, and put three shovels full of street manure in a hill. I planted at least twelve seed in a hill. Calculated about two-thirds to be lost by the bugs. The produce was very large, as the family consumed many, many were pilfered and given away, and sold over one hundred dollars worth.

Fifty rods of asparagus, I cultivated as follows: sowed the seed, transplanted the third year to the bed for cutting. I prepared the bed by plowing deep, and highly manured with well rotted manure; when the bed was thus prepared, I took a large plow, and struck a furrow about twelve inches deep, set my plants in the bottom of the furrow, about ten inches apart, cover, then struck the second eighteen inches apart from the first, and so on until all are set. Top dressed with well rotted barnyard manure and salt. My asparagus was of an extraordinary size and quality. Sold $69.66 worth at eleven cents per bunch, besides what was used in the family. I cannot tell how much fertilizing matter is taken from the soil to produce twenty bushels of wheat. I wish I could.

I have cultivated usually about an acre of strawberries, with success and profit. I have cleared over two hundred dollars in one year from one acre. My mode of cultivation is to take a clean piece of land in good condition, plow it very deep, harrow thoroughly, and spread evenly from two to three hundred bushels of leached ashes to an acre, mark the land in drills three feet apart, and insert the plants from eight to twelve inches apart, in the drills. I transplanted in April, or early in May. I obtained no fruit the first year, of consequence. I cultivate between the rows, as long as I can get through with the cultivator, and then let the vines run together, they will cover the ground entirely by the first of August. I do nothing with them again until the next spring, when I take a double team and heavy harrow, and go over the beds thoroughly, until the plants are sufficiently thinned; this loosens the ground and takes out all the weak plants. If the ground does not appear to be sufficiently rich, I apply another dressing of leached ashes; after this is done, the ground is laid off in beds, about five feet apart, and nothing more is done till the fruit comes to maturity. After the fruit is gathered, the beds are cleared of weeds, and left till the next spring. The second year I repeated the above method.

One great benefit I find in using ashes as a manure, is that it brings no weeds. I consider strawberries one of my best crops. I failed, however, entirely in my crop this year. I had one and a half acres of the pine apple variety, a variety much recommended for its prolific crops, and the superior quality of its fruit; my beds never looked so well as they did last spring, blossomed finely, and bid fair for an abundant crop, but after blossoming no berry appeared, and I had therefore a most splendid failure. I had not a full grown, perfect berry in the whole field, they were all pistillate plants. I have been setting rows of the Iowa variety through them, with the hope of better success the next year.

18. I usually sow clover and timothy seed on winter crops. Timothy in August and September, clover in April. Four quarts of timothy, and usually twelve quarts of clover to an acre. My land being upland, I prefer timothy and clover for pasture.

19. I mowed thirty-two acres this year, and averaged about one and a half tons per acre. I cut clover when the heads begin to brown, and timothy when in full blossom. Cure as much in the swath and cock as possible. To preserve the color and keep the leaves from shelling, salt in the mow, at the rate of four quarts to the load.

24. I was in the milk dairy business till last October, when I sold out. For the last two years previously I kept on an average about thirty cows. Since then seven. Nineteen I pasture for others. I keep for use on the farm, four mules, one horse, and one yoke of cattle. My cows are of the native breed.

25. I have made no experiment in the breeding or use of cattle. Have used for farm work, horses, mules and oxen J prefer mules for general farm purposes. Oxen the second best. I consider two mules as good, and will do as much work as three horses. I can keep three mules as cheap as two horses, besides saving much in shoeing, and costing nothing for farriery; they will work when very old, and I could not be induced to do without them.

26. I stable my cattle, and cut my feed principally and give them as much as they will eat. Water in the stable.

34. The depredations of the common peach worm I prevent by digging round the trees twice a year, and destroying them. This is the only troublesome insect I have had so far, except the common caterpillar, which is easily got rid of.

35. I keep the ground cultivated for two or three feet round the trees, and keep the ground covered with compost, when the orchard is in sod, which is not more than one year in four. I endeavor to keep my orchard well manured. I wash my trees with a preparation of lime and oil of soap, which keeps the bark smooth and thrifty.

37. I have a story and a half house, 24 by 36 feet, with kitchen back, 18 by 30 feet, 12 feet taken off for store room. The upper part of my main building is devoted entirely to sleeping rooms.

My main barn is 30 by 80 feet, standing upon a side-hill of gentle slope, end towards the hill; under the end where the ground is lowest, I take off twenty feet for a horse stable, making room for seven head of horses; the next twenty feet is a root cellar; the remaining forty feet is a cow stable with cisterns underneath for catching all the water that falls on the building. My water cistern occupies about twenty-four feet under this stable, and will hold something like two hundred hogsheads; the other sixteen feet is occupied by a cistern for collecting the urine from the stables, the floor being caulked and pitched, with a trough behind the cattle to conduct their urine to the cistern.

My manner of building the cisterns is this. I dig out the earth, of the requisite shape and dimensions, take cement and coarse sand of equal parts, mixed with water, and spread evenly about half an inch in thickness all round the sides, and on the bottom, and cover with planks, with earth over them. A cistern of the capacity of one hundred hogsheads can thus be built, with pump, complete, for less than twenty-five dollars.

The cow stable is arranged to accommodate twenty-four head of cattle in two rows, with an alley way between. The sides are filled in with brick. One part of the barn, over the horse stable, I use for hay, and the remainder of the space, over my thrashing floor and cow stable, for grain and fodder. Attached to my barn I have on the north a wagon house and tool shoop, 18 by 50 feet, with room overhead for hay and grain, opening into the main barn. To the south of the main barn, attached in the same way, is a building 18 by 100 feet; fifty feet is occupied as a cow stable, the remainder is open shed, with room overhead same as north wing. To the south of the southern shed I have my hen house, 12 by 18 feet, with large windows on the south side, to admit light and warmth. East and south of this shed is my barn-yard, protected from the north and west winds. The yard contains about three quarters of an acre, divided into two parts, the front one for most common use; in the rear one I have four barracks for coarse feed, where I fodder in the middle of the day in pleasant weather. East of my barn, some forty feet, I have a wagon house, 28 by 36 feet, with corn house and granary overhead. About one hundred and fifty feet in the rear of my house, I have a shop 16 by 24 feet, story and a half, with sleeping rooms overhead.

38. I have but one kind of fence, post and board, or plank, principally chestnut posts, and inch and a quarter culled spruce plank, four planks high, of which I have sixteen hundred and eight rods, costing about eighty cents per rod. I have no wire fence, and have seen none that I admire. My fences are all in good condition, all having been built within the last five years. As an evidence of the good quality of my fence, I have not received a shilling's damage to my crops for the last year, from either my own or neighbors' cattle.

39. I measure my grain, seed, and potatoes; weigh my beef, pork, and hay, and keep an account of all.

40. I keep a general farm account, of all my sales, receipts and expenditures, and can strike a balance at the end of the year, and thus ascertain my profits or losses.

ACCOUNT OF EXPENSES OF FARM.

407 days labor at 50 cents,	$203 50
Yearly and monthly labor,	665 00
One girl one year,	52 00
" four months,	16 00
500 bushels of oats at 41 cents,	205 00
Blacksmith's bill,	97 81
Grocery, shoe, and dry goods bill,	357 90
12 bushels grass seed at $2 25,	39 00
10 do clover seed at $4 50,	45 00
12 do seed wheat at $1.25,	15 00
Seed corn and garden seeds,	10 00
26 bushels seed buckwheat at 62½ cents,	16 25
State and school taxes,	31 22
Insurance in Mutual Ins. Co , average about,	4 50
Depreciation of farming tools,	100 00
Two tons of plaster,	10 00
1,000 bushels of lime, at 4 cents,	40 00
Grains for cows,	119 17
Hay bought in April last,	75 00
Total expenses for current year,	$2,174 35

The above includes all farm and family expenses, with the exception of doctor's bills and church expenses.

ACCOUNT OF RECEIPTS OF FARM.

363 bunches asparagus at 11 cents,		$69 66
Received from produce of 5 acres sweet corn,		257 33
610 bushels rye at 69 cents,		410 90
Melons, pumpkins, and citron melons sold,		148 00
831 bushels buckwheat at 44 cents,		365 44
Raspberries sold,		31 25
Potatoes, (including those unsold,)		100 00
1,240 bushels of corn at 65 cents,		806 00
Milk sold from an averarge of 30 cows, 9 months,		1,629 81
Sixty-four bushels, 35 lbs. wheat,		64 62
Five loads of hay,		40 00
Five loads of straw,		5 00
Broom brush, 4,920 lbs.,		250 00
Pigs sold,		40 00
Surplus of straw,		100 00
Surplus of corn stalks, part sold,		100 00
Twelve tons of clover hay at $6,		72 00
Chickens and eggs sold,		40 00
140 lbs. butter at 18¾ cents,		26 25
Peaches sold,		10 00
Pie plant,		11 25
Twenty-five calves at $1 each,		25 00
Received for pasturage,		18 50
Received for work done by teams and men during the State Fair,	$117 30	
Received for labor done for S. Van Rensselaer,	114 00	
		231 50
Total receipts for current year,		$4,852 51
Less expenses per account,		2,174 35
Net profits current year,		$2,678 16

Mr. MORE has furnished us with a brief summary of the products of his farm for the present year. It is necessarily imperfect, from the fact that the yield of only a portion of his crops had been ascertained, and but few of them marketed, when the statement was made—20th of October.

Barley, 33 acres, produced 895 bushels, weighing 48 lbs. per bushel—sold in the aggregate, $671.25, from which, deduct the total expense and charges incident to the crop, $262.75, leaves a profit of $408.50 besides the straw, which is valued at half the price per ton as hay. Asparagus, 50 square rods—sales $71.70—charges on same, $20—leaving as profit, $50.70. Potatoes, 12 acres —from which 602 bushels have been sold, at 50 cents per bushel, $301—400 bushels on hand, $200—aggregate value $501; total cost of the crop $205—leaving as profit $296. Indian corn, 14 acres—aggregate produce estimated at 560 bushels. Buckwheat, eight acres—sold from the same to the amount of $62.50, at 50 cents per bushel. Hay, from 30 acres, 50 tons. Kept on the farm 17 cows—sold butter to the amount of $300. Kept 40 pigs, worth $5 each.

Since last year, Mr. MORE has increased the number of his apple trees from 1000 to 1800, and has now set to apple, peach, pear, plum, and quince trees, 52 acres. The spaces between the small trees, are set to raspberries, currants, strawberries, &c. The raspberries and currants, except such as were used in the family while fresh, were made into preserves and jellies—several hundred pounds of which are on hand unsold.

Farming in Pennsylvania.

In the early part of October, we paid a visit to Pennsylvania, for the purpose of being present at some of the agricultural exhibitions, and learning something of the agriculture of a part of that state. The first point of destination was Newtown, and after attending the fair of the Bucks County Agricultural Society, at that place, we took the opportunity of examining some of the farms in that neighborhood.

Bucks county has long enjoyed a great celebrity as a farming district, and if that portion of the county which we saw is a fair representation of the whole, its reputation is not undeserved. It may be pronounced an interesting section. Its surface, though comparatively level, is sufficiently diversified to afford a pleasant aspect, numerous streams of excellent water, and roads which are easy to be traveled over. The proportion of wood, and its situation with respect to the cleared land, is such as imparts an agreeable variety to the landscape, and with the general neat appearance of the farms, and large and substantial stone dwellings and barns, few sections of the country present more attractions in respect to rural enjoyment and comfort.

From Mr. ADRIAN CORNELL, Jr., we obtained some facts in regard to the agriculture of the neighborhood, and especially in regard to the agriculture and products of his own farm, which we think will interest and benefit our readers. His residence is about three miles from Newtown, and about twenty miles north from Philadelphia. The place has been occupied by the ancestors of Mr. C. for several generations; a portion of the dwelling house was built by his great grandfather, in 1745, and the remaining portion by his grandfather, in 1762. It was a well known mansion during the Revolution, and while the British army was encamped in the vicinity, was more than once subjected to search, from being supposed to shelter "rebel" officers.

The home farm consists of 144 acres, exclusive of wood-land. It is devoted to mixed husbandry, as are most other farms in this section, a system which is generally found most profitable where circumstances are adapted to it, and especial so, where, as in this case, the products are regularly marketed from week to week.

THE SOIL is of very uniform character over the whole farm, and varies but little over a large extent of country from the Delaware river westwardly. The surface is mostly a fine, friable loam, underlaid, generally, with a grayish yellow clay, (probably impregnated with iron,) resting at various depths on sandstone strata. It is an excellent soil as regards mechanical relations; being easily tilled, not liable to pack closely under the effect of rains, nor to bake under the effect of drouth. This constitution renders the crops comparatively independent of the weather, as to wetness or dryness, and with good cultivation insures a certain return. We have before mentioned that a very protracted drouth had been experienced here the past season—scarcely rain enough to soak the ground to the depth of two inches, having fallen from June to the 25th of October; and yet on Mr. CORNELL's farm, and some others which we visited, the crops were nearly all good. It should be understood, however, that there appears to be an inexhaustible source of water through this district, at no very great depth in the earth, as is seen in numerous unfailing rivulets, and the abundant supply afforded by wells.

COURSE OF CROPPING.—Mr. CORNELL's farm is divided into lots of 12 to 16 acres, each of which (except what is devoted to orcharding) is in regular rotation, brought into the same crop. This rotation is the following: first year Indian corn, second year oats, third year wheat, fourth, fifth and sixth years clover and timothy—mowed two seasons and pastured one.

The sod for corn is usually plowed in November and December. From five to eight two-horse wagon loads of manure are spread before plowing. The land is then plowed to the depth of three and a half to four inches. This will appear to many persons as much too shallow. Mr. C. defends his practice by the argument that the sod and the manure should be kept where the crop will derive most benefit from them, that is, as near the surface as practicable, without suffering loss from exhalation. But the suggestion may be worthy consideration, whether a deeper tillage, which could be effected by a sub-soil plow without burying any deeper the manure or surface soil, would not be beneficial. In spring, about the last week in April, the ground is thoroughly worked over with a large cultivator, which brings the soil into excellent condition for planting. The corn is planted the first week in May. Furrows are made four feet apart for the rows, and the seed is dropped in them with a hand drill. The drill does not cover the seed, and to do this a harrow is drawn, with the teeth upward, in such a way as to fill the furrows. When the plants are fairly started, they are thinned so as to leave one every nine inches. The crop is gone over once with the hand hoe; the rest of the work is done with the cultivator. Strict attention is paid to the thorough eradication of weeds. For the twelve years Mr. C. has managed the farm, he has made it a rule that no foul plants should be allowed to go to seed, and the effect has been to almost wholly prevent their appearance. In a cornfield of sixteen acres, scarcely a weed could be seen, and over the whole farm nothing of the kind obstructed the growth of crops. The corn is cut up and shocked, as soon as it is ripe enough to cure. The yield averages sixty bushels per acre, measured as husked in the field. The cost of cultivation is 20 cents per bushel. The price it brings in market is usually 62½ cents per bushel. The fodder produced on an acre, yielding as above stated, is reckoned worth $6. The fodder is all fed out in the barn-yard, in order that the waste parts may be converted into manure.

Oats follow corn—sown as early in spring as the soil will admit of plowing, three bushels seed, broadcast, to the acre. No manure is given to this crop. The average yield is 60 bushels per acre. The average price which this grain brings in market, is 40 cents per bushel.

Wheat succeeds oats. The preparation consists in first spreading on the stubble, fifteen two-horse wagon loads of manure to the acre, which is immediately plowed in, three and a-half to four inches deep, harrowed, and left to rot till about the middle of September, when the ground is cross-plowed, about five inches deep. The soil is then reduced to a fine tilth by the harrow and roller, and the wheat sown by a drill, two and a-half bushels to the acre. The yield for the last ten years has averaged over 25 bushels per acre—has sometimes gone as high as 30 bushels per acre. The average price it has brought in market for the last ten years, is 110 cents per bushel. The kind raised by Mr. C., and almost the only kind raised in this part of the country, is the Mediterranean. It succeeds better against both the Hessian-fly and wheat-midge, and is also less subject to blight. The grain has improved very much in quality, since it was first introduced, but in acquiring this quality, it has lost something of the peculiar habit by which it was enabled to resist the Hessian-fly. The straw was formerly very stiff, and the husk or sheath which enveloped the stem, adhered so closely that the insect could not obtain a lodgment for itself. The subject is agitated of making a new importation of this variety of wheat, for the object of securing the property for which it was at first specially valuable.

Clover and timothy seed are sown on the wheat at the close of winter, on a light snow, or early in spring, while the ground is very soft. Mr. C. likes the mode of putting in wheat by the drill—thinks the crop is usually better so than broadcast—but it has an objection in reference to the clover and grass, which is regarded as of some importance. The drill leaves the surface somewhat in ridges and furrows; the clover and grass-seed, though sown broadcast, tends to collect in the furrows, which causes it to grow in rows like the wheat, leaving the field imperfectly swarded over. The yield of hay is about two tons per acre. The whole amount of hay cut on the farm annually, is about 80 tons. Its average market value is $12 per ton.

FRUIT.—Mr. CORNELL has about twelve acres devoted to apple and pear trees—three or four acres of which are set to an apple orchard, as yet too young to bear much. In general these fruits are an important item of farm produce, but this year the trees bear but very little—not enough apples being obtained for the home demand.

Live Stock.—There are kept on the farm sixteen cows, two heifers, one bull, five horses, eight Leicester sheep, twelve swine, besides young pigs. The cows are chiefly a cross of the Short-horn and common stock; a few have a dash of the Devon. They are kept for making butter, not for breeding stock for sale. They are fed in winter in the barn, night and morning, on hay which is a mixture of clover and timothy, with what corn-fodder they are inclined to eat in the yard, while they are out. Each cow is also fed every day, from the time they come off grass till after their calves are fatted, with eight quarts of the following mixture: Two quarts corn-meal, three quarts shorts, one quart oil-cake meal. After the calves are taken off, and the milk is devoted to butter, the oil-cake is discontinued, from an idea that it injures the quality of the butter.

The cows calve the latter part of January or first of February. The main object in having them "come in" at this time, is that the calves may be fatted and sent off while veal will command a good price, and also leave the best of the season to be availed of for making and selling butter. The calves suck till they are six weeks old, and are then sold in market at four and three-fourths to five cents per pound, live weight. They bring from eight to ten dollars each. The cows being well fed and sheltered in a warm barn at night, and in all inclement weather, and allowed the liberty of the yard for exercise and air in pleasant days, they give a large quantity of milk, make the calves fat, and afford a large quantity of butter after the calves are taken away. The sixteen cows gave an average of 180 pounds of butter each, in 1850, besides fatting their calves.

Mr. C.'s ideas in regard to the proper way of keeping cows, deserve to be mentioned. He holds that they should have an abundance of good food, and be kept in good order. If they get *fat*, even, as they frequently do towards the time when they go dry, he considers it no disadvantage, and refuses to sell his best cows to the butcher, though offered a high price. He says the fat is not lost, that it is only stored up in the system, and after the cows calve, it goes into the milk, and either fats the calves, or forms butter. We think this is correct reasoning. Great loss is sustained in many instances by cows being very poor when turned to grass. When in this condition, it takes considerable time, and a large amount of food, to fill up the wasted tissues of the body, and give the animal any surplus to spare.

Butter Making.—As already remarked, butter is an article of importance on Mr. Cornell's farm, and it is so on most farms in this section. It is made with great care, and sent to Philadelphia every week, where it brings an average of twenty-five cents per pound. We made very particular inquiries in regard to the kind of room which was preferred to set milk in for this purpose, and found that spring-houses were considered best. We are satisfied this opinion is well founded. An unfavorable idea in regard to such houses has been entertained; but the objections have arisen from the want of proper attention to certain requisites, the most important of which is purity of air. The great advantage of spring-houses is the security of a proper temperature—50 to 55 degrees—by which the milk may be kept from souring till all the cream rises. But with this temperature it is essential that there should be a pretty free circulation of air, charged as little as practicable with dampness. This is found necessary for the perfect separation of the cream from the milk, and for the making of the best butter. Without a spring-house, it is difficult to obtain at all times the required temperature. Farmers who cannot avail themselves of a good spring, often used what is called a vault for setting milk. This is an under-ground room, the walls, roof, and floor of which are of stone. A dry and shaded situation is selected for the site. The dimensions are usually such as to admit of the milk being set on the floor, as that imparts a coolness to objects coming in contact with it. The top, which is commonly arched, should be high, (not less than nine or ten feet,) to promote ventilation, which is effected by an aperture in connection with the door, and a chimney or pipe at the opposite end of the vault, passing through the roof to the surface of the ground. It has formerly been the practice to build these vaults in connection with wells—that is, the vault is open to the well on one side. Mr. Cornell has two, one of which is of the latter kind, but its use has been latterly discontinued, and the other used in its stead. The advantage of a cooler temperature by a connection with the well, is over-balanced by the dampness, and this cannot be avoided with the imperfect ventilation which belongs to an underground apartment.

Mr. James C. Cornell, (a brother of Mr. A. C. jr., and whose farm adjoins that of the latter,) has a spring-house, the best, perhaps, we have ever seen, and never have we seen any place of the kind which indicated better management. The spring runs into the house at one end, and the water flows over the floor, which is of bricks, the depth being governed by a gate through which the water has an outlet. In warm weather the pans stand on the floor, and the water is raised round them to the height of two to three inches. The pots which hold the cream are also set in the water in warm weather. It is kept constantly running, and it is so cold that there is no difficulty in keeping the temperature of the room low enough for the cream to rise well. The house is in the shade of large trees, but the surrounding ground is solid and dry. There are windows in each side of the milk-room, near the roof, provided with shutters, by which the quantity of light is regulated, and wire netting to keep out flies. When the weather is too cool, or a higher temperature than that of the open atmosphere is wanted, the milk is set on shelves, and the room is warmed by a stove. This is done early in the spring and late in the fall.

The strictest neatness and care are practiced throughout the whole process of managing the milk, cream and butter. The milk is first strained into a large vat, which does not stand in the milk-room, and when considerably cooled is drawn off into the pans, which are set in their appropriate place. The cream is taken off before the milk sours. Mr. J. C. Cornell is confident that nothing is gained in quantity by allowing the milk to sour before it is skimmed, and that the souring is decidedly injurious to the quality of the butter. The particular crisis observed in taking off the cream is this: when the cream has all risen, it readily separates from the milk—the particles of cream adhering together, merely floating on the watery fluid below. A person can soon learn by close observation when the proper time has arrived. Mr. C. states that he has noticed when milk was permitted to sour before it was skimmed, that the acid of the milk appeared to decompose the cream, which was gradually made thinner—actually wasted away.

The cream is churned while perfectly sweet. A barrel churn is the kind used. It is worked by a horse, with a small lever-power. The churn is placed in an open room at one end of the dairy, a belt connecting with the power. When the butter is taken from the churn, it is worked, salted and set in the dairy for a day, when it is again worked over, and put up in pound lumps for market. Mr. J. C. C. is not in favor of using water for working butter, believing that water injures the flavor of the butter, and operates against its keeping. It is worked on a table with a brake. The form of brake found to operate best, is three inches wide and an inch and a half thick, with square corners. This is better than a round or oval form, as the operator can keep the butter better together, and press every part more equally. In moulding it into lumps, a small shallow scoop and spatula, both of wood, are used—the hand not being brought in contact with the butter. The Ashton salt is the kind used, a little less than an ounce to the pound of butter. Neat tubs, holding ten pounds each, are used for conveying the butter to market. In warm weather they are packed in boxes with ice. The butter is all sold to regular customers, who engage a given quantity for each week. We scarcely need to say, that the quality of the butter is unexceptionably fine.

Poultry.—Considerable attention is paid through this section to raising chickens and turkeys for market. A variety of fowls has long been bred here which has been so noted as to receive the name of "Bucks county breed." It is not easy to obtain an authentic account of their introduction; but it is evident that they belong to the family known as Malay, Chittagong, Shanghae, &c. The stock has however been much improved in some instances, and is not unfrequently found of much better shape, better quality of flesh, and even greater weight than most of the newly-imported fowls of the same tribe. Mr. Adrian Cornell, Jr., has kept quite a large stock of poultry for several years. He kept last winter, seventy hens and seven cocks, and this is about his average number. He has several stocks which he breeds by themselves. The old Bucks county stock, we were assured by the elder Mr. Cornell, who is upwards of seventy years of age, has been kept, unmixed, on this farm, for more than fifty years. These fowls, whatever some writers may say as to their being "mongrels, comparatively worthless," breed with more uniformity, as to shape, size, and color, than any of the large Asiatic fowls that we have seen, imported within the last ten years! Mr. C. raises them every year. They are usually short-legged, broad-breasted, rather small boned for their weight, and give a good quality of flesh. But the stock to which Mr. C. gives the preference, eggs and flesh considered, was imported from China in 1842. They are now mostly black—having been bred with a view to obtain that color for the eight years Mr. C. has had them. He has paid particular attention in the selection of these for breeding, to the proper shape, and has improved the stock much in this respect. They are large—the hens frequently weighing eight and the cocks ten pounds each. They are greatly disposed to fatten, and on this account sometimes attain heavier weights than mentioned. Mr. C. selected two hens from his flock last spring, to be sent to a person in England, who wished to obtain the best specimens of American fowls, that weighed a fraction over ten pounds each. Mr. C. has also the Jersey Blues, and specimes of several of the late importations—' Shanghaes," "Cochin-Chinas," &c. For the stocks which he wishes to breed by themselves, Mr. C. has separate yards. In February, the requisite number of the best fowls of each stock is selected, and put in their respective "walks" The eggs laid by the selected fowls are hatched by other hens, which run at large, or are kept in different places. The chickens are hatched in April and May. The fowls are only kept in separate yards about three months. The rest of the year they all run together uncontrolled. Towards the latter part of the time they are confined in yards; they sometimes get the habit of pulling out and eating each other's feathers. Mr. C. thinks this is caused wholly by the fowls being discontented and worn down by confinement.

Mr. Cornell began the business with the object of selling eggs and chickens in the market, but of late years has made sales of breeding stock to good advantage. Chickens usually sell in Philadelphia, dressed, nine cents per pound, and eggs at fourteen cents a dozen. He caponises more or less fowls every year. Samuel Reed, of Joabstown, N. J., makes a business of doing this work. He goes through a large extent of country, perhaps twice in a season, and operates on all the fowls that are brought to him, charging five cents each. He sends word when he is coming, and the fowls are shut up and kept without food for a day. He has castrated 275 in a day, and castrates from 12:000 to 15,000 in a year. Not more than one in a hundred die from the operation. Last year Mr. Cornell had forty-eight chickens and six turkeys caponised by him in one day, day, and lost but one. The age preferred for doing this, is three to four months, or when the feathers are well set. Capons are usually killed in February, when about ten months old. They are made very fat by full feeding for a month before they are killed, and weigh, dressed, from sixteen to twenty-two pounds per pair. Mr. C. has had a pair weigh *thirty-two* pounds, dressed, at fifteen months old, and he sold them at seventeen cents per pound. The usual price is about twelve cents per pound.

Mr. A. Cornell, Jr., keeps but few turkeys; his brother (Mr. J. C. C.) had about 100, and he remarked that he thought they saved him a $100 worth of grass this year, by killing grass-hoppers, which have been very numerous. The turkeys were worth a dollar a piece for market.

The income from Mr. A. C., Jr.'s poultry for the last two years has been as follows: 1849 sales of poultry and eggs $211.85—used in the family to the amount of $38.15—equal to $250; 1850, sales, $131.39—used in family and otherwise disposed of, $68.61—equal to $200.

Labor.—Mr. A. Cornell, Jr., employs two men on his farm the year round; one of them, as foreman, receives $150 a year, and his board, the other $110 a year and board. The other hired labor on the farm amounts on the average to about $30 a year. The hired female labor in the house costs $75 a year besides board. Mr. C. superintends the farm operations. It will not be amiss to say, in order to give an idea of the labor actually employed on the farm, that Mr. C. has but one child, a son, whose time is spent at school. His taxes amount to $100 a year. The following is a copy of his memorandum of sales for 1850:

Butter and calves,....................	$628 96
Hay,..........	261 87
Fruit,..	258 60
Wheat,......	193 65
Oats,....................	136 88
Poultry,......................................	131 39
Pork,....................	64 52
Wool and lambs,....	40 00
Grass-seed,...................................	20 00
	$1,735 87

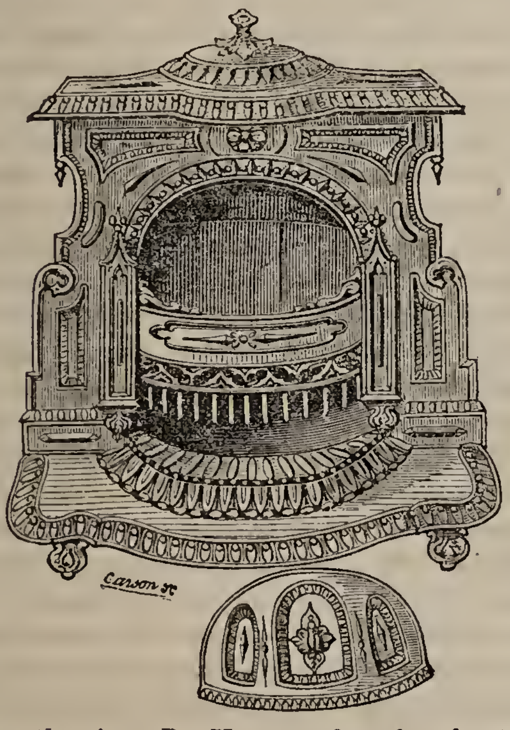
Some remarks in regard to farm buildings, fences, and the management of manures, are deferred to another occasion.

Chinch-bug.

L. Tucker, Esq.—A friend has kindly lent to me the October number of "The Cultivator," containing an article by Dr. Asa Fitch, on wheat-insects. The "*bugs upon growing wheat*," noticed by Dr. Fitch, are no other than young *chinch-bugs*, insects that have long been known in the Southern and Western States for their depredations on growing wheat, Indian corn, and other grains. They are mentioned in the eleventh volume of Arthur Young's "Annals of Agriculture," published about 1788, from which work Messrs. Kirby and Spence probably compiled the following account of them in the first volume of their "Introduction to Entomology:" "America suffers in its wheat and maize from the attack of an insect, which, for what reason I know not, is called the chintz-bug fly. It appears to be apterous, and is said in scent and color to resemble the bed-bug. They travel in immense columns from field to field, like locusts destroying everything as they proceed; but their injuries are confined to the states south of the 40th degree of north latitude." "From this account," add Kirby and Spence, "the depredator here noticed should belong to the tribe of *Geocorisx*, Latr.; but it seems very difficult to conceive how an insect that lives by suction, and has no mandibles, could destroy these plants so totally." I have ascertained, from an examination of living specimens, that the chinch-bug is the *Lygxus Cucopterus*, described by Mr. Say, in Dec., 1831, in a little pamphlet on the "Heteropterous Hemiptera of North America." It is a mistake that these insects are confined to the States south of the 40th degree; for I have been favored with them by Professor Lathrop, of Beloit College, Wisconsin, and by Dr. L. Baron, of Geneva, Illinois. The latter gentleman had no difficulty in obtaining a sufficient number without going out of his own garden. A very good account of them, with an enlarged figure, will be found in the "Prairie Farmer" for December, 1845. In the same publication, for September 1850, may be seen an excellent description of this insect by Dr. LeBaron, who, not being aware that it had been previously named by Mr. Say, called it *Rhyparochromus devastator*. The eggs of this insect are laid in the ground, in which the young have been found in great abundance, at the depth of an inch or more. They make their appearance on wheat about the middle of June, and may be seen in great numbers, and in various stages of growth, during the whole summer. Some of them continue alive during the winter in their places of concealment. Other particulars concerning these insects are given in the Prairie Farmer. Yours, resp'y, T. W. Harris. *Cambridge, Mass., Oct.* 31.

Heating Apparatus for Dwellings.

The substitution of stoves for open fire-places, has effected a great saving of fuel, and in a pecuniary view is an important improvement; but it is more than probable that in our efforts to secure this advantage in the greatest degree, an injurious sacrifice of health has been in many cases sustained. A serious objection to close stoves is, that they tend to prevent the renewal of the air of the room, and give off more or less noxious fumes. The injury in the latter particular of course, depends on the nature of the fuel employed. Anthracite and bituminous coals often contain sulphur, and sometimes arsenic, and when burned in stoves, without free draught, evolve gases which contaminate the air. Dr. Ure speaks of such stoves as "pseudo-economical," and says, "There is no mode in which the health and life of a person can be placed in more insidious jeopardy, than by sitting in a room with its chimney closed up, with such a choke-damp-vomiting stove." Of late, attention has been directed to obviating the objections to close stoves, without incurring a large loss on the score of economy. Considerable success has in several instances been attained in this respect, but so far as the writer is acquainted, the object has been most perfectly accomplished by the "Franklin Coal-Burner." It possesses the advantages of the Franklin-Fire-Place or open grate, with the additional advantage that it may be set in any part of the room, and connected with the chimney by pipe. It is neat and tasteful in design, and superior in respect to finish and quality of casting,—and affords the cheerful light of an open fire, with sufficient ventilation for health, making, at the same time, but a comparatively small consumption of fuel. We have tested it for anthracite coal, with which it operates in the most satisfactory manner. It is equally well adapted to burning bituminous coal. It was introduced here, and is made by Messrs. Jagger, Treadwell & Perry.



Exotic Vegetables.---The Tea Plant.

It would seem to have been intended by nature that all vegetables should not do equally well in all climates and countries, and that some should do better in foreign countries than in their own. There is nothing better known in medicine, than that certain medicinal plants are active only when grown in certain countries. Rhubarb for example grows and thrives in this country with vigor, and does excellently well as a *culinary* vegetable; but as a medicine it is almost worthless. It must be grown in Turkey, or some part of Asia, to be a good medicine. The same is the case with numerous other plants. Digitalis, for example, grown here, is worthless, and so is Colchicum, while the roadsides and meadows of England in the same latitude afford them in all their excellence The Irish potato produces a better article of food anywhere else than in its native country. The highly glutinous white wheat of Maryland, when grown in the Genesee country loses a large portion of its gluten. Now why is all this? It seems to be a result of the all-wise providence of nature, the object of which is to keep up commercial intercourse with all parts of the world. If all plants would do as well in all parts of the world, then each portion of the world would have no occasion to import from other portions, and thus the population of each portion would become stagnant and inert. As it is, the teas of China induce us to send something that we produce there to pay for teas. So with all other products. I do not believe that tea will ever be cultivated in this country. Experiments have been tried with it for forty years. The plants can be cultivated successfully, but the tea produced from them has not the flavor of China tea. And it seems to me almost a pity that we should succeed in cultivating tea, for if we should a very large inducement for intercourse with China would be annihilated, and thus *her* civilization be retarded. England will never succeed in cultivating cotton in her East India possessions. She must purchase cotton from us. Because the varied productions of the earth, each in its locality, are necessary to keep up the intercourse of the various populations. for the advancement of the welfare of the whole. S.

◆

To Cleanse Jars,—fill them with rather hot water, and stir in a spoonful or so of pearlash (or caustic potash is better) pouring off, and repeating if necessary. The adhering contents will be immediately disengaged. In extreme cases, let the water and pearlash stand a few hours. Rinse the jar with cold water. Vials and other vessels are easily washed this way.

NOTES FOR THE MONTH.

To our Agents and Correspondents.

Having arrived at the end of another volume, we renew the expression of our obligation to all who have contributed, by their efforts, to the circulation of THE CULTIVATOR the present year, and most respectfully solicit their influence in behalf of our next volume. We are dependant upon you, gentlemen, for our circulation. The annual subscription is so small, that we are compelled to adhere to our rule of advance payments, and consequently all papers are discontinued at the end of the year. Whether our subscribers renew their subscriptions or not, depends, in a great measure, upon the fact of their being called on to do it, by some local agent, as no travelling agents can be employed on a paper published at so low a price. We therefore earnestly solicit your continued efforts, and hope you may all feel sufficient interest in the progress of Agricultural Improvement, to induce you to make the effort necessary to make your lists at least as large, if not larger, than the present year.

To a large number of post-offices, we send only to a single subscriber. If that subscriber would himself act as agent, or induce his Postmaster to get up a club, he would very greatly oblige us, as well as benefit his neighbors, whom he should be instrumental in inducing to read THE CULTIVATOR. It will be seen that we have added several prizes to our Premium List, and we trust there will be a spirited competition. It will be noticed also, that the Premiums are to be paid in CASH, SILVER PLATE, or AGRICULTURAL BOOKS or IMPLEMENTS, at the option of the agent

Prospectuses are sent to all our Agents, and we shall be glad to send Prospectuses and specimen numbers, to all who may be disposed to act as agents.

To all CORRESPONDENTS who have contributed to our pages during the current year, we tender our hearty thanks. They have benefitted all our readers, and the consciousness of the good they have thus done, will, we trust, stimulate them to continue their contributions. We have, however, hundreds of readers, who have enjoyed all the benefit of the labors of others, without contributing at all to the fund of information brought together in our pages. Would that we could convince them of their duty to contribute their share of knowledge to the common fund. We should be glad to have every one of our readers furnish us with rough notes of the results of their experience in the various branches of rural affairs. No one need refuse because he is not accustomed to write for the press, as we shall cheerfully make all the corrections necessary.

☞ Our HORTICULTURAL DEPARTMENT has been unavoidably crowded out this month. We will make amends for it hereafter.

☞ Several communications are necessarily laid over, which will have a place in our next volume.

SOUTH DOWN SHEEP.—Those who wish to purchase this breed of sheep, are referred to the advertisement of Mr. ROTCH, whose sheep, it is not too much to say, are fully equal to any in the country.

Premiums to Agents of the Cultivator.

As an inducemen to those disposed to act as Agents, the following *Premiums* will be paid in CASH, SILVER PLATE, or AGRICULTURAL BOOKS and IMPLEMENTS, to those who send us the largest list of subscribers for THE CULTIVATOR for 1852, previous to the *tenth of April next.*

1. To the one sending us the largest number, with the pay in advance, at the club price of sixty-seven cents each, the sum of FIFTY DOLLARS.
2. To the one sending us the next largest list, the sum of FORTY DOLLARS.
3. To the one sending us the next largest list, the sum of THITY-FIVE DOLLARS.
4. For the next largest list, the sum of THIRTY DOLLARS.
5. For the next largest list, the sum of TWENTY-FIVE DOLLARS.
6. For the next largest list, TWENTY DOLLARS.
7. For the next largest list, FIFTEEN DOLLARS.
8. For the next largest list, TEN DOLLARS.
9. For the next largest list, FIVE DOLLARS.
10. To all who send us Thirty Subscribers or over, and do not receive one of the above Prizes, a copy of THE HORTICULTURIST for one year.
11. To all who send us Fifteen Subscribers, and do not receive one of the above Premiums, THE HORTICULTURIST for six months.

◆

ACKNOWLEDGEMENTS.—Communications have been received from T. S. Dewing, H. W. Bulkley, A. Mot, H. G., S. Clarke, G. W. Youngman, John Diehl, Elizabeth Diehl, Prof. J. P. Norton, Dr. T. W. Harris, A Lover of Farming, Frank, S. B. Buckley.

BOOKS, PAMPHLETS, &c., have been received as follows: Mr. GEO. R. RUSSELL'S Address before the Norfolk Ag. Society, at Dedham, Sept. 24, 1851, from the Author.——Catalogue of the Commercial Garden and Nursery of PARSONS & Co., Flushing, L. I.——Glances at Europe, by HORACE GREELEY, from the publishers, DE WITT & DAVENPORT, New-York.——Patent Office Report, for 1850–51—Part II. Agriculture,—from Hon. THOMAS EWBANK, Com. Patents.

WINTER EXHIBITION OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.—It will be borne in mind that this Society will hold in this city, an exhibition of fat animals, dressed meats, seeds, dairy produce, fruits, &c., in connection with the Annual Meeting for the coming year—20th, 21st, and 22d of January next. The place selected for the show of live-stock, and all the articles to be exhibited, excepting fruits, is the yard and sheds belonging to GALLUP'S *United States Hotel*, corner of Washington and Swan streets. About $600 have been offered in premiums for this occasion, and we have no doubt that an interesting and useful exhibition will be made. The premiums not only refer to the best fat cattle and sheep to be shown alive, but also the best *carcasses*, (dressed,) of swine, Long-wooled, Middle-wooled and Cross-bred sheep—best turkeys, geese, ducks and fowls, including capons, all dressed. And in connection with the exhibition there will probably be a voluntary display of live poultry, of the celebrated varieties. The premiums embrace specimens of wheat, rye, barley, oats, corn, peas, beans, flax seed, clover seed, timothy, and other grass seeds, and hops. There is not a more favorable point in the country, than Albany, for the collection and purchase of all these articles, and we believe that the butchers, provision-dealers, seed-dealers, &c., from the south and the east, can be induced to attend this exhibition—and that a permanent Annual Fair of this kind may be established here, which may greatly conduce to the mutual benefit of the producer, dealer, and consumer. A little exertion on the part of those interested, we are confident would secure this result. Bills containing the premiums may be had gratis, on application to Mr. Johnson, the Secretary of the Society.

Address of Hon. Frederick Holbrook at the Vermont State Fair.—Seldom have we seen so much valuable thought in so small a compass. It is strictly an Agricultural Address, presenting the importance and dignity of man's sphere, as the tiller of the soil,—the scope which the varied branches of agriculture gives to superior talent,—the high purposes which should animate every farmer, and the rich reward which awaits his successful efforts. He claims that more is required of the farmer of the present day, than to have the "hard day's work in him"—that agriculture should be studied as a rational, progressive science, and have among its chief votaries, high-minded, intelligent young men, who know how to observe and compare, to invent and improve, and in what way to perfect their profession. He argues, that a mind thoroughly imbued with first principles, familiar with the laws of nature and the mode of their manifestation, would find food enough for its ambition, and sufficient range for its power, in a pursuit which was in the beginning man's only inheritance, and more than all, would preserve, by constant communion with nature, that natural simplicity, integrity and love of country, which render man worthy of a citizenship in a free and enlightened country, and those hidden virtues which make a rural home attractive and happy. We cannot but admire the spirit that breathes in the whole production, and believe that a Society, which has so auspiciously commenced its existence, will do much in carrying out the exalted aims, which its president has exhibited so profoundly, truthfully and practically.

Correction.—A letter has been received from Prof. Mapes, with reference to some remarks, (see page 339, Oct. No.,) attributed to him, in which he says, "*I feel it a duty to deny most emphatically ever having made such assertions at the Farmer's Club, or elsewhere.*" He says that he read a letter to that body from Mr. P. Mason, of Somerville, N. J., who asserts that he had raised pork at 4½ cents per pound, *on cooked corn meal*, and that when a similar pen was fed with *raw meal*, the pork cost 12½ cents per pound. Also a letter from Mr. James Campbell, of Weston, N. J., giving some results of the feeding of carrots to cattle, but that he made no mention of feeding carrots to hogs. Our authority for the statement attributed to Prof. Mapes, was a report claimed to be "official," which we found in the New-York Leader.

Fair of the American Institute.—The animal department of this exhibition the present year, is stated to have been superior to the display of any former year. We are informed by those who attended, that the cattle, sheep, and swine, comprised many of the very best specimens of the various esteemed breeds. The departments of manufactures, implements, &c., though not as full as in some former years, were considered rather superior in respect to the character of the articles. A very large number of premiums has been awarded, consisting of gold and silver medals, money, plate and books; but want of space obliges us to refer to the official Report of of the Institute for particulars.

Variety of Ducks.—We saw at Col. Sherwood's, in Auburn, last summer, a singular variety of ducks, and on inquiry were told that they were obtained from Mr. John S. Clark, of Throopsville, Cayuga county. We were so much interested in their appearance, especially from their striking resemblance to the wild black-duck, (*Anas obscura*,) that we wrote to Mr. Clark to learn their history. In reply, he said—"The ducks you inquire about, have been bred distinct from any other variety, at least twenty years. We obtained them some ten years since, in Orange county, and were then told that they were originally descended from the wild black-duck, and from the great resemblance, I have no doubt the statement is true, but cannot affirm this as a certainty. The characteristics of this variety are, nearly a uniform color, [a little darker than the wild black-duck,] good size, attaining the weight of eight pounds, dressed, at four months old, very quiet, and very prolific, one duck laying from 150 to 200 eggs in a season, with proper care. There are some in this vicinity which have lately acquired a *top-knot*, equal to any Poland fowl." We have lately received from Mr. Clark a pair of these ducks, which fully answer the above description. The drake has the top-knot in perfection. There also came with this pair, a couple of the beautiful wood, or summer duck—the handsomest of all the duck family

Singular Phenomena.—Mr. Thos Hancock. of the Ashton Nurseries, Burlington, N. J.; informs us that on the 2d of Nov., a most singular phenomena was observed at a pond adjoining his lands. The fishes, consisting of pike, sunfish, catfish, roach, cells, &c., of all sizes, from one to twenty-two inches, were dying in great numbers. He states that the water appeared unusually clear, and seemed to magnify the objects in it. The pond gets low in summer and fills up with the fall rains. With the exception of a ditch recently opened into the pond, about half a mile above the outlet, there had been nothing to affect the state of the water. Can any one account for this?

Small Potatoes to Plant.

A writer in the Cultivator last spring, stated that small potatoes were as good to plant as large ones. I had some doubts of it at the time, and thought that inasmuch as the size of all the potatoes raised in the season of 1850, were uncommonly small, it was possibly like making a virtue of necessity to recommend small potatoes to plant. However, I thought that I would try the experiment. I therefore took four rows across my patch, side by side, land of equal quality and condition, and planted them on the 19th day of April, 1851—two rows with very small potatoes, averaging in size from a walnut to a small butternut, and put two and three in a hill. Planted the other two rows with a full common large size potato. In the course of the season, I could not discover any difference in the appearance and size of the vines, and on the first day of October, 1851, I dug the said four rows. There was a fair yield of good size potatoes in the whole; and I could not perceive any difference in the size, quality or by measure, between those rows planted with the small potatoes, and those planted with the large ones. I

I make this statement of the result from my own experiment. Yours respectfully, H. G. *West Greenfield, Saratoga co., N. Y., Oct.* 5, 1851.

University of Albany.—We had expected to publish this month, the programme of the Agricultural Department of the University, but we have to send our paper to press before the arrangements for the School are entirely perfected.

Horses vs. Oxen for Farm Labor.

We have always held that the expediency of using horses instead of oxen for farm labor, must depend on circumstances—such as the nature of the soil, and the general character of the surface of the farm, as to hills or plains. A writer in a late English paper, makes some sensible remarks on this subject. He says,

" By some it has been contended that oxen ought not to be used for plow or draught, and that early maturity alone is and ought to be the leading object of the grazier. Now, it is somewhat singular that although essay after essay has been written in favor of the exclusive use of the horse for the purposes of husbandry, and calculation after calculation has been supplied in support of this view, still, upon hill-farms and tenacious soils, the Sussex, Hereford, Devon, Scotch, and Welsh oxen are found successfully competing with the horse teams; practically proving their profitable employment and better adaptation to their work than the horse.' The result of the inquiry instituted on the comparative merits of the horse and the ox for the purposes of draught has been highly satisfactory. Upon some lands the horse carries the palm of victory, and on others the ox is triumphant, thereby showing that each locality is the best judge of its own requirements. On the side hill, where a dead pull is required, the ox team is brought into use; while upon the light vegetable moulds the horse is every way superior."

From the Albany Argus, of Nov. 15th, 1851.

MR. RUSSELL COMSTOCK, of Mabettsville, Dutchess county, N. Y., lectured on his invaluable discovery in vegetation, in the N. Y. State Ag. Rooms, in this city, yesterday, to a very intelligent audience; several of whom were Presidents and ex-Presidents of Agricultural Societies. The opinion appeared to be general that Mr. Comstock's newly discovered principle, was of very great importance.

Many have requested me to repeat my lecture in Albany, but prior engagements occupy every day for a month or more.

I hope to lecture in Albany city, during the annual meeting of the N. Y. State Agricultural Society, on or about the 21st of January, 1852. RUSSELL COMSTOCK.

Albany, Nov. 15, 1851.

Russell Comstock's Inestimable Discovery Explained.

[A COPY.]

Chester, Orange co., N. Y., Nov. 10th, 1851.

We, the undersigned, have listened to Mr. Russell Comstock's disclosure of his discoveries in vegetation. and his successful system of cultivation, which is founded on his discoveries, with great interest; and his facts and conclusions we think are perfectly reasonable, causing conviction of the great practical utility of his system of cultivation.

His natural laws accurately direct the judicious application of labor and manures. Duty also prompts us to urge, that all our agricultural friends and lovers of science hear his lecture without delay, and at any season of the year.

Charles B Howell, John H. Vail, D. B. Foster, Gabriel Seely, Jr., P. Gregory, James W. Wood, James J. Board. Dec. 1—1t.*

Prince's Linnæan Botanic Garden and Nurseries.

WM. R. PRINCE & CO., Flushing Long Island, offer their select and unrivalled Collection of Fruit and Ornamental Trees, Shrubbery, Bulbous and other Flowering Plants, and Green-house Plants. The stock of Standard and Dwarf Pears, and of all other Fruit Trees, is very large. 100 000 Evergreen Trees, comprising every variety. 25,000 Roses, of the choicest Daily, Perpetual, and Moss varieties. 100 splendid varieties of Pœonies. 10,000 Grapevines of the finest kinds, and all the new and superior Strawberries. Descriptive Catalogues, *with reduced prices*, will be sent to post-paid applicants. Oct. 1—2t.

THE Transactions of the New-York State Agricultural Society, vols. 1 to 9, for sale at the Office of "The Cultivator," price $1 per vol.

FINE FOWLS FOR SALE.

VERY handsome specimens of the Albany Dorking, Black Poland, and Silver Spangled Poland, are for sale by
Albany, Dec. 1—1t. E. C. PLATT.

New and Important Insurance.

Northern N. York Live Stock Ins. Co., Plattsburgh N. Y.

INCORPORATED by the Legislature of the State of New-York, July, 1851. Horses, Cattle, and all kinds of Live Stock insured against Death, by the combined risks of Fire, Water, Accidents, Diseases, &c. CAPITAL, $50,000.

Directors.

James Farr,	Washington county.	Amasa C. Moore,	Clinton county.
Joseph Potter,	do	John Boynton,	do
Olif Abell,	do	Zephaniah C. Platt,	do
Pelatiah Richards,	Warren co.	Cornelius Halsey,	do
Walter Geer,	do	James Averill,	do
Wm. E. Calkins.	Essex co.	Jacob H. Holt,	do
Albert Andrus,	Franklin co.	Peter S. Palmer,	do
John Horton,	St. Lawrence co.	George Moore,	do
Thomas Conkey,	do	Henry G. Hewitt,	do

JAMES FARR, President. G. MOORE, Plattsburgh, Sec'y.
A. C. MOORE, Vice-Pest. Z. C. PLATT, do Treas.
I. C. MIX, Port Am, Gen. Agent.
October 13, 1851.

This company are now organized and ready to receive applications for insurance. It is confidently believed that the owners of valuable animals will avail themselves of the advantages offered by this mode of protection. If fire, life and marine insurances are proper and expedient, so is live stock insurance: the reasons for insurance are equally applicable to all.

The company have adopted such rates as, they believe, will furnish the means of paying ordinary losses, without resort to an assessment. But to guard against extraordinary losses, which may arise from contagious diseases or epidemics, it becomes necessary to require premium notes.

To the Owners of Horses and Live stock.

Office of the Northern New-York Live Stock Ins. Co.,
Plattsburgh, August 16, 1851.

The Directors of the above Company, incorporated by the Legislature of the State of New-York, at its extra session in July, 1851, respectfully request your attention to the following facts bearing on this subject.

1st. Value of this class of property. By the census of 1845, there were at that time in the State of New-York, as follows:

Horses,	
One-half a million,	505,155
Neat Cattle,	
Over two millions,	2,072,330
Cows milked,	
Nearly a million,	999,490
Sheep,	
Over six millions,	6,443,855
Hogs,	
Over one million and a half,	1,584,344

Without making any estimate of the value of this property, it is apparent that it is immense; extending to every inhabited spot, and essential to the health and comfort, almost to the existence of the inhabitants.

2d. These animals are subject to disease and accident. It is asserted by a Vermont Company, engaged in the Live Stock Insurance, as a fact which cannot be disputed. that the aggregate loss upon this species of property throughout New-England, is *greater* than the losses by fire; at all events, it is a fact undoubted that the annual loss is very great, and the owner is left unprovided with any means of security against the hazard incident to this description of property.

3d. The knowledge of this risk is one of the leading hindrances to improvement in the breed of that useful and noble animal, the horse.

Men of capital are slow to invest large sums in a valuable animal, whose loss they must every day risk, to the amount often from five hundred to a thousand dollars, in every valuable breeding horse.

With the ample security to be afforded by sound Insurance Companies, the investment of capital in horses and live stock may be made as safe and safer than the carrying of freight on the seas and inland waters. Marine Insurance has rendered this last business steady and profitable; while without it, it would want the confidence which that branch of business now commands. The absence of this Insurance in the case of live stock is universally felt, while the owner of real estate can command half or two-thirds of its value when needed for an emergency.

While the owner of the ship, "the play thing of the wind and waves," may obtain any reasonable advance; the owner of equally valuable property, invested in horses and cattle, cannot obtain a dollar. The only exception being fat cattle destined for market. In vain does the owner of the horse appeal to his industry or usefulness. The answer is, that his property is liable to disease and accident, and that as security it is utterly worthless.

4th. The Insurance principle comes in. and does for him what Life Insurance has done for the young beginner in trade, taking away the risk arising from the uncertainty of life.

It will do for him what Fire Insurance has done for the owner of personal property; placing him nearly on a level with the owner of real estate.

Your aid is respectfully solicited in behalf of this company, the first chartered in this state for this object. The Directors intend it shall be prudently conducted, and one which shall deserve the confidence of the public.

Terms of Insurance will be furnished by the agents of the company.
George Moore, Secretary. JAMES FARR, President.
Dec. 1—6t.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

ANDRE LEROY,

Nurseryman, at Angers, France,

RETURNS his thanks for past favors, and begs leave to inform his friends and the public in general that his catalogue for 1851 is now ready and can be had on application to his agent Mr. E. Bossange, 138 Pearl street, New-York. He offers for sale a large collection of the finest fruit, forest and ornamental trees of all kinds, shrubs, roses, &c. &c. The superior quality of his trees is already known in the United States, and the experience he has of packing up trees to be sent abroad gives him a noted advantage over all other Nurserymen. Orders had better be sent early, although his Nursery is the largest in France, the number of some new kinds of trees are limited and some of the last orders sent last year could not be executed. The terms, prices, charges, and all desirable information will be found in his catalogue. The trees will be shipped to the care of his agent in New-York, who will attend to the receiving and forwarding. For further particulars and for the catalogue apply to

Nov. 1, 1851—3t. E. BOSSANGE, 138 Pearl street, N. Y.

A Choice Farm in Ohio for Sale,

LOCATED in Stark county, three and a half miles south of Massillon, containing three hundred and three acres; about two hundred and twenty-five acres cleared, and in a high state of cultivation. The balance in timber, principally white oak.

The improvements consist of a frame tenant house and barn, a Gothic Cottage, built of stone, beautifully located, commanding a view of the whole estate; a thrifty young orchard of choice apple trees, &c.

The cleared land is a level plain, soil of a superior quality for the production of wheat, free from stumps, and all obstructions to a good system of cultivation. The timber land is what is termed rolling, and elevated about thirty feet above the plain. The Erie and Ohio canal pass through the farm, forming the western boundary, and the Pennsylvania and Ohio Railroad within three miles. In short, it is one of the most desirable estates in Ohio.

The owner being permanently located in a foreign country, is the reason for the farm being offered for sale.

For further particulars direct, post-paid, to the address of the subscriber, C. NESENER, Massillon, Ohio. Oct. 1—4t.

THE FRUIT GARDEN,

A TREATISE intended to illustrate the Physiology of Fruit Trees, the theory and practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as standards, dwarfs, pyramids, espaliers, &c.; the laying out and arranging different kinds of Orchards and Gardens; the selection of suitable varieties for different purposes and localities; gathering and Preserving Fruits: Treatment of Disease; Destruction of Insects; description and uses of Implements, &c. Illustrated with upwards of 150 figures, representing different parts of Trees, all practical operations, forms of trees, Designs for Plantations, Implements, &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, New-York. 1 vol. 12 mo.

"This book *supplies* a place in fruit culture, and that is saying a great deal, while we have the popular works of Downing, Thomas and Cole. Mr. Barry has then a field to himself, which he occupies with decided skill and ability."—*Prairie Farmer.*

"It is full of directions as to the management of trees and buds and fruit, and is a valuable and pleasant book."—*Albany Eve. Journal.*

"The work ought to be in every family in the United States."—*Ashtabula Sentinel.*

"The work is prepared with great judgment and founded on the practical experience of the author—is of far greater value to the cultivator than most of the compilations on the subject."—N. Y. *Tribune.*

"It is one of the most thorough works of the kind we have ever seen, dealing in particulars as well as generalities, and imparting many valuable hints relative to soil, manures, pruning and transplanting."—*Boston Gazette.*

"A mass of useful information is collected, which will give the work a value even to those who possess the best works on the cultivation of fruit yet published."—*Evening Post.*

"His work is one of the completest, and, as we have every reason for believing, most accurate to be obtained on the subject."—*N. Y. Evangelist.*

"A concise manual of the kind here presented has long been wanted, and we will venture to say that, should this volume be carefully studied and acted upon by our industrious farmers, the quantity of fruit in the State would be doubled in five years, and the quality too greatly improved. Here may be found advice suited to all emergencies, and the gentleman farmer may find directions for the simplest matters, as well as those which trouble older heads—the book will be found invaluable."—*Newark Daily Advertiser.*

This book can be sent by mail to any part of the United States. Just published by CHARLES SCRIBNER,

Oct. 1—3t. 145 Nassau st., New-York.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN, of Massachusetts. Two large octavo vols. Price, when neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are now prepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes, one foot in length, per thousand,				$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices.

The establishment is at *Latourette's Point, Fresh Kills*, near *Richmond, Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I.

The Tiles will be found on sale at A. B. ALLEN & CO.'S, Nos. 189 and 191 Water-Street, N. Y., and at GEO. H. BARR'S State Agricultural Warehouse, No. 25 Cliff-Street, New-York.

Staten-Island, Aug. 1—tf.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

Splendid Farm in Ohio for Sale or Rent.

WE have a splendid farm for sale or rent, containing about 300 acres. It is situated 21½ miles west of Columbus, and within 2½ miles of London, the county seat of Madison county. An excellent McAdamized road, from Columbus to Xenia, passes through it. The access to market either east or south, is easy and quick. The railroad from Cincinnati to Cleveland has a depot at London, 2½ miles from it.

About 125 acres of the land are cleared and under good improvement. The balance is well timbered, and the whole is under fence. It is well watered, having springs or streams in abundance.

On it is a substantial brick dwelling house and two other comfortable tenements. The orchard contains about 200 apple, peach and pear trees. The whole farm is well adapted for raising grain, or corn, and would make an admirable dairy or stock farm.

The proprietor has made arrangements in the west to go into another kind of business, and will sell the above farm on reasonable terms. If not sold by winter the above farm will be rented for a series of years.

For terms apply at this office or to

WOMBAUGH & WHEELER,

Oct. 1—4t. Real Estate Agents, Columbus, O.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.
2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.
3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.
4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,

March 1—tf. 189 & 191 Water street, New York.

FOWLS AND EGGS.

THE great desire manifested in New-England for procuring good Poultry, has induced H. B. COFFIN, *Newton, Mass.*, to pay particular attention to breeding and importing first rate stock. All persons desirous of having the purest and best to breed from, may depend upon being faithfully served. Among many kinds of Fowls for sale by him, are the following, which he is very particular in breeding.

Shanghae—Forbes stock.
Imperial Chinese—Marsh stock.
Cochin China—Coffin do
White Shanghae do do
Black Shanghae do do
Golden Poland, or Spangled Hamburgh.

Dealers in Fowls or Eggs for hatching, supplied upon liberal terms. Orders addressed to *No. 5 Congress Square, Boston*, will be promptly executed.

Reference to Mr. J. VAN DUSEN, of Cincinnati, Ohio, who will take orders for Fowls, as advertised above.

Boston, Aug. 1, 1851—12t.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany.

Contents of this Number.

Close of the Volume,.. 385
Agriculture of Iowa and Illinois, by W. G. Edmundson,.... 386
State Cattle Show at Baltimore, by G. B. Smith,............ 388
Farming in Delaware County, N. Y., by R.,................. 389
Characteristics of the Season of 1851,...................... 390
The Mineral Manure Theory, by Prof. Norton,............ 392
Close of the Great Exhibition—Produce of Twelve Acres, by W. H. Sotham,.. 393
Laying in Trees for Winter—Large and Small Potatoes, by T. F.—Protecting tender Roses, ... 394
Answers to Inquiries,.. 394
Notices of New Publications,................................ 395
D. D. T. More's Premium Farm,............................ 397
Farming in Pennsylvania,.................................... 399
The Chinch-bug, by Prof. T. W. Harris,.................. 402
Heating Apparatus for Dwellings—Exotic Vegetables—The Tea Plant, by S.,......................... 403
Notes for the Month—To Correspondents, &c.,............. 404

ILLUSTRATIONS.

Mr. More's Farm Buildings,.......................... 396
Franklin Coal Burner,................................. 403

THE HORTICULTURIST,

AND

JOURNAL OF RURAL ART AND RURAL TASTE,

Edited by A. J. DOWNING, Newburgh,

Author of Landscape Gardening, Fruits and Fruit Trees of America, Cottage Residences, Country Houses, &c., &c.,

Is published monthly, at the office of The Cultivator, Albany, by Luther Tucker, Proprietor.

This popular publication, which is gradually extending its influence throughout the country, and is becoming indispensible to the tasteful Gardener, the Fruit Culturist and the Floriculturist, will be continued as heretofore, under the Editorship of Mr. Downing, whose ability and taste in all matters of country life, are unequalled by any writer of the present day.

The extended and valuable correspendence of The Horticulturist, presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it eqnally sought after by even the general reader, interested in country life. To all persons alive to the improvement of their Gardens, Orchards, or Country Seats—to Scientific and practical Cultivators of the Soil—to Nurserymen and Commercial Gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable.

A new volume (the 7th.) commences with the January number for 1852; and it will be the constant aim of the Editor and the Publisher, by every means in their power, to render it still more worthy, by every practicable improvement, of the liberal patronage it is receiving.

☞ All letters on business must be addressed to the Proprietor LUTHER TUCKER, Albany, N. Y., and Editorial correspondence to be addressed to the Editor, A. J. DOWNING, Esq, Newburgh, N. Y.

Terms.—Each number contains 48 pages, embellished with a Frontispiece and numerous Illustrations, printed on the finest paper, and in the best manner. Price, $3 a year—Two copies for $5.

SOUTH DOWN SHEEP.

THE subscriber has for sale a few Ewes, from his breeding flock, (*which contains none but selected sheep,*) price $15 a head.

Also a few Ewe Lambs, price $6 a head.

These sheep are in fine condition and health, and are bred exclusively from the flocks of John Ellman and Jonas Webb, both well known English breeders. His stock buck of last year is also for sale, price $50. FRAN'S. ROTCH.

Morris, Otsego Co., N. Y., Dec. 1—1t.

Spanish and Shanghae Fowls.

THE subscriber has for sale fowls of these celebrated breeds. The Spanish are from three to seven months old, and the oldest of the pullets have laid regularly for two months. Both cocks and hens are of a glossy black color, with the large single comb, and white ear-patch which distinguish this race. No fowls, probably, combine in so great a degree as these, the advantages of fine quality of flesh and abundant production of eggs, with great beauty of form and plumage. The Shanghaes comprise both the red or yellow, and the white. The latter have bred this year entirely uniform in color—no variation from pure white having appeared in several broods.

N. B. In a previous advertisement it was stated that the Spanish fowls would be exhibited at the State Fair at Rochester. They were *not* shown there—an accident preventing them from being sent.

Albany, Dec. 1—tf. J. M. LOVETT.

Dana's Muck Manual.

JUST published, by Jas. P. Walker, Lowell, Mass., a new, revised, and greatly enlarged edition of the Muck Manual for Farmers, by Dr. Samuel L. Dana. The increased size of the work, (345 pages,) compels the publishers to put the price at 87 cts. in paper, (and not 75, as advertised a few weeks since,) and $1.00 in neat cloth. For sale in Albany, by Messrs. E. H. Pease & Co.; in New-York, by Mr. C. M. Saxton. Oct. 1—3t.

United States Agricultural Warehouse and Seed Store.

THE subscribers solicit the attention of the public to the large and varied assortment of Agricultural and Horticultural Implements, Field, and Garden Seeds, which they have constantly on hand, and offer for sale at the lowest prices, and on the best terms. Persons in want of any articles in their line, would do well to call upon them before purchasing elsewhere. A descriptive Catalogue will be sent gratis upon application, post-paid.

N. B. Guano, Bone Dust, and other fertilizers.

JOHN MAYHER & CO.

Dec. 1—tf. No. 197 Water-St., New-York.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, Professor of Scientific Agriculture.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the armer who attends it can understand the whole, and apply it in his own experience.

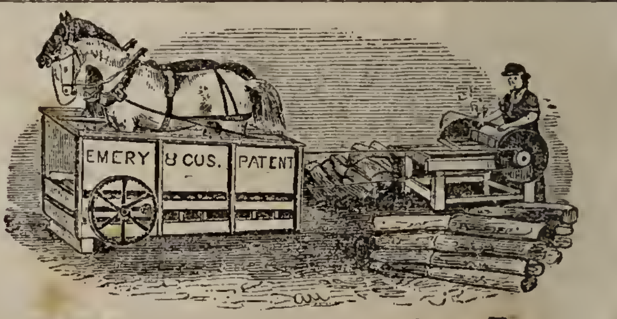
More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. John P. Norton, New-Haven, Conn. June 1, 1851—8t.



EMERY & CO.'S Premium Horse Power.

THE subscribers offer to the Public with renewed confidence, their Superior Horse Powers, Threshers, and Separators—as their success in competion with other Powers, during the fall, has shown that in the opinions of committees and the public we have the best Railroad Horse Power for general and particular purposes. Prices are as advertised in former numbers of the Cultivator.

New-York State and Michigan Agricultural Societies, gave to above their first premiums. EMERY & CO,

369 and 371 Broadway, Albany, N. Y.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

LUTHER TUCKER, PROPRIETOR.

LUTHER TUCKER & SANFORD HOWARD, Editors.

$1 per Ann.—7 Copies for $5—15 for $10.

☞ All subscriptions to commence with the volume, (the Jan. No.,) and to be paid in advance.

Advertisements.—The charge for Advertisements is $1 for 12 lines, for each insertion. No variation made from these terms.

6
C8321
n.S., v.8

AUTHOR
TITLE.

JUL 9 1906
MAY 27 1908
JUN 14 1909
OCT 20 1
OCT 23 1911
FEB 29 1912
APR 20 1915
SEP 28 1922
NOV 10 1928

8–184